UK MET OFFICE
GLOBAL DATA MONITORING REPORT

April 2006

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CONTENTS

1. Introduction

2. Global Data Monitoring Statistics

3. Composite Observing Systems for the North Atlantic (COSNA)

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1. Introduction

As the WMO-appointed lead centre for monitoring surface marine data, the U.K. Meteorological Office produces monthly statistics on the quality of these observations received at RSMC Exeter. This report includes this information along with statistics for most other types of data. The figures and tables contained herein are presented according to the agreed standards for the exchange of monitoring results.

The report is based on data received at the UK Meteorological Office Headquarters, Exeter in time for inclusion into the appropriate analysis (the current cut-off time is approximately 7.2 hours after each analysis time). The evaluation of data quality is based on comparison with the appropriate 6-hour global model forecast (background) field, although to provide background values valid at the observation time for non-main hour data, time-interpolation of the T+3, T+6 and T+9 forecasts is used; and for sea surface temperature the background field is the analysis from the previous day. Generally, the background field is of high quality except in data sparse areas, tropical regions and areas close to steep orography where care should be taken in interpreting the statistics shown.

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2 Global Data Monitoring Statistics

Ships, Fixed buoys, Platforms and Drifting buoys observations

TABLES 1and 2 contain lists of the stations which are considered to have returned suspect observations of pressure, windspeed, wind direction or sea surface temperature, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 1 and 2 show 10 degree lat/long box average numbers of SHIP/SYNOP and DRIFTER observations received per day throughout the month at Exeter and assimilated into model runs. All data are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Synop Observations

Table 3 contains a list of stations which are considered to have returned suspect observations of Pressure during the month. The criteria for quality control are given in the header page. The reporting practice of each station is included in the list of statistics.

At the UK Met. Office, we monitor SYNOP pressure after it has been interpolated to our Global NWP Model's surface height. For most synoptic stations (about 75%), the surface pressure (at the model surface) is calculated from the reported station-level pressure, or, if this is not available, the height of a standard pressure-level (e.g. 850 hPa or 700 hPa). If neither of these are available, or if the reported station-level pressure is deemed unreliable, the reported mean sea-level pressure is used (about 25% of SYNOPs).

Aircraft observations

Tables 4A (300-150 hPa) and 4B (1000-301 hPa) contain lists of statistics calculated from data received from all airline carriers.

Figures 3A (300-150 hPa) and 3B (1000-301 hPa) show 10 degree lat/long box average numbers of aircraft reports in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS) received per day throughout the month at Exeter and assimilated into model runs. Observations with a vector wind difference (compared with the model background field) of >60 m s^{-1} have been excluded. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

Figures 4A-7A (300-150 hPa) and 4B-7B (1000-301 hPa) show wind statistics for AIREP/ASDAR in AIREP/AMDAR code (including AIREP, ACAR, AMDAR, ASDAR and ADS). Observations with a vector wind difference > 60 m s^{-1} have been excluded. Statistics have not been calculated for 10 degree lat/long boxes containing <31 observations.

Figure	Parameter
4	Mean wind vectors
5	Mean observation - background wind vector
6	Mean observation-background speed (m s^{-1})
7	RMS observation-background vector (m s^{-1})

Radiosonde Observations

TABLES 5-7 contain lists of the stations which are considered to have returned suspect observations of geopotential height, vector wind or wind direction, as appropriate, during the month. The criteria for quality control are given on the header page for each table.

Figures 8 and 9 show 10 degree lat/long box average numbers of TEMP 500 hPa GEOPOTENTIAL HEIGHT and TEMP/PILOT 300 hPa WIND observations received per day throughout the month at Exeter and assimilated into model runs. Data from all hours are included. Box average values are plotted as the nearest whole number (values of x.5 are rounded up). Where the average is more than 999, then 999 is plotted. A box with no observations is blank. If the 24 hour average >0 but <0.5, then 0 is plotted.

APPENDIX I shows details of the gross error limits used in TABLES 5 and 6 and the weights used in the RMS values in TABLE 5.

Satellite Observations

Figures 10-24 show satellite wind statistics for all geostationary satellites. All plots other than **AVAILABILITY** show average data where there are > 10 observations in a 10 degree lat/long box.

Figure	Parameter Plotted	Layer (hPa)
10	Availability/average daily number	701-1000
11	Vector mean wind (observed)	701-1000
12	Observation-background vector wind difference	701-1000
13	Mean observation-background speed differences	701-1000
14	RMS observation-background vector difference	701-1000
15	Availability/average daily number	401-700
16	Vector mean wind (observed)	401-700
17	Observation-background vector wind difference	401-700
18	Mean observation-background speed differences	401-700
19	RMS observation-background vector difference	401-700
20	Availability/average daily number	101-400
21	Vector mean wind (observed)	101-400
22	Observation-background vector wind difference	101-400
23	Mean observation-background speed differences	101-400
24	RMS observation-background vector difference	101-400

Figures 25-39 show sounding statistics from the polar orbitting satellite NOAA-15. Figure 25 shows the mean daily number of ATOVS soundings, and figures 26-39 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
26	Mean	Surface (HIRS8)
27	SD	Surface (HIRS8)
28	Mean	700 (HIRS15)
29	SD	700 (HIRS15)
30	Mean	500-700 (HIRS11)
31	SD	500-700 (HIRS11)
32	Mean	400 (HIRS4)
33	SD	400 (HIRS4)
34	Mean	700 (AMSUA5)
35	SD	700 (AMSUA5)
36	Mean	300 (AMSUA7)
37	SD	300 (AMSUA7)
38	Mean	100 (AMSUA9)
39	RMS	100 (AMSUA9)

Figures 40-54 show sounding statistics from the polar orbitting satellite NOAA-16. Figure 40 shows the mean daily number of ATOVS soundings, and figures 41-54 show mean and standard deviation observation-background differences for brightness temperature, for selected channels.

Figure		Weighting function peak (hPa)
41	Mean	Surface (HIRS8)
42	SD	Surface (HIRS8)
43	Mean	700 (HIRS15)
44	SD	700 (HIRS15)
45	Mean	500-700 (HIRS11)
46	SD	500-700 (HIRS11)
47	Mean	400 (HIRS4)
48	SD	400 (HIRS4)
49	Mean	700 (AMSUA5)
50	SD	700 (AMSUA5)
51	Mean	300 (AMSUA7)
52	SD	300 (AMSUA7)
53	Mean	100 (AMSUA9)
54	RMS	100 (AMSUA9)

Figures 55-69 show sounding statistics from the polar orbitting satellite NOAA-18. Figure 55 shows the mean daily number of ATOVS soundings, and figures 56-69 show mean and standard deviation observation-background differences for brightness temperature for selected channels.

Figure		Weighting function peak (hPa)
56	Mean	Surface (HIRS8)
57	SD	Surface (HIRS8)
58	Mean	700 (HIRS15)
59	SD	700 (HIRS15)
60	Mean	500-700 (HIRS11)
61	SD	500-700 (HIRS11)
62	Mean	400 (HIRS4)
63	SD	400 (HIRS4)
64	Mean	700 (AMSUA5)
65	SD	700 (AMSUA5)
66	Mean	300 (AMSUA7)
67	SD	300 (AMSUA7)
68	Mean	100 (AMSUA9)
69	RMS	100 (AMSUA9)

N.B. All satellite sounding data is bias-corrected (and thinned) before being assimilated in the UKMO NWP model.

3 Composite Observing Systems for the North Atlantic (COSNA)

This section shows statistics for upper air (radiosonde and aircraft) and surface (drifter) data for the North Atlantic area for data received at Exeter during the month.

TABLE 8 shows quality statistics for **Mean Sea-level Pressure, Windspeed and Wind Direction** received at Exeter in DRIFTER code during the month for the area 10°N - 80°N, 85°W - 0°W.

TABLE 9 shows quality statistics for **Temperature and Vector Wind** received at Exeter from aircraft during the month for the area 40°N - 70°N, 60°W - 0°W.

Table 10 - 13 show quality statistics **(Geopotential Height and Windspeed at 100 and 500 hPa)** for all TEMPSHIPS in the area bounded by 0°N - 90°N, 100°W - 40°E and selected TEMP stations within the same area.

Revisions

1. May 95 Monitoring statistics for NOAA-11 removed. Figures 25-27 now show data for NOAA-12
2. May 95 Notes giving details of observations included in wind direction statistics clarified and corrected.
3. August 95 Monitoring statistics for NOAA-14 added with figures 28-30.
4. February 96 Monitoring statistics for GOES-7 have been replaced by statistics for GOES-8 and GOES-9.
5. April 96. 500 km and 120 km SATEMs replaced by 120 km resolution temperature profiles produced locally from the radiances disseminated by NESDIS.
6. February 97 Monitoring statistics for Meteosat 5 have been replaced by statistics for Meteosat 6.
7. Sept 97 Monitoring statistics for NOAA-12 removed. Figures 25-27 now show data for NOAA-11
8. January 1998. Increase in resolution of UKMO global forecast model.
9. April 1998. GOES winds ceased on 2nd March 1998, and were replaced with GOES high resolution winds from 15th.
10. June 1998. Monitoring statistics for Meteosat-6 were replaced by monitoring statistics for Meteosat-7, from 3rd June.
11. June 1998. Corrections in our processing of radiosonde data resulted in a decrease in the number of 500hPa geopotential heights in Figure 8 of about 230 per 24 hours (compared with previous reports), and a small increase in the number of 300hPa winds in Figure 9.
12. July 1998. Meteosat-5 began transmitting winds from 2nd July, at 63 degrees East (over the Indian ocean), and this data is included in the statistics.
13. July 1998. GOES-9 (at 135W) was replaced mid-month by GOES-10 (initially at 105W, moving towards 135W).
14. February 1999. Problems with NOAA-11, and TOVS data ceased to be assimilated from 26 February.
15. March 1999. UKMO introduced 3-D VAR assimilation system on 29 March, and also began assimilating ATOVS data from NOAA-15.
16. May 1999. Included statistics for ATOVS sounding data from NOAA-15.
17. September 1999. Included statistics for high resolution visible winds from Meteosat-5 and Meteosat-7.
18. October 1999. The 3-D VAR assimilation system was upgraded on 19 October, including improvements in the assimilation of ATOVS radiances, use of SSM/I surface wind speed, an improvement in the calculation of surface pressure for SYNOPs, and thinning and revision of observation errors of aircraft data.
19. November 1999. High resolution visible winds from Meteosat-5 and Meteosat-7 removed until used operationally.
20. April 2000. Aireps in Table 4 and Figures 3-7 split into ranges 300-150 hPa (A) and 1000-301 hPa (B).
21. September 2000. Corrected an error affecting the mean positions of a minority of buoys in Table 2.
22. November 2000. An error in the production of Table 6 was corrected. Previously, some sondes with suspect vector winds were being missed.
23. April 2001. Included statistics for ATOVS sounding data from NOAA-16.
24. May 2001. Included statistics for sea surface temperatures from marine surface observations.
25. December 2002. Included statistics for ATOVS sounding data from NOAA-17.
26. December 2002. Meteosat-7 and Meteosat-5 SATOB winds replaced by higher resolution BUFR-coded winds.
27. November.2003.Included temperature and relative humidity statistics for ships, fixed buoys and platforms in Table 1.
28. November 2003. NOAA 17 statistics no longer available due to malfunction of the AMSU-A instrument.
29. December 2005. Included statistics for ATOVS sounding data from NOAA-18.

TABLE 1

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SHIPS, FIXED BUOYS AND PLATFORMS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for ships, fixed buoys and platforms.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (Degrees).
:Air temperature (Degrees C).
:Relative Humidity (%).
:Sea surface temperature (Degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:PGE :Percentage of observations with gross errors.

:%REJ :Percentage of observations flagged excluding those with gross errors.

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the wind observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 m s^{-1} (vector wind)
:15 degrees (air temperature)
:10 degrees (sea surface temperature)

SELECTION CRITERIA :NOBS ≥ 20 , and one or more of the following:

1.|bias|	≥ 4 hPa	(pressure),
	≥ 5 m s^{-1}	(wind speed),
	≥ 30 degrees	(direction).
	≥ 3 degrees	(sea surface temperature).
	≥ 4 degrees	(air temperature)
	≥ 15%	(relative humidity)
2.SD	≥ 6 hPa	(pressure),
	≥ 80 degrees	(direction).
	≥ 5 degrees	(sea surface temperature).
	≥ 6 degrees	(air temperature)
	≥ 25%	(relative humidity)
3.PGE	≥ 25	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8AS5	P	52	2	96	1.1	5.7	5.8
C6FZ6	P	66	0	2	1.0	5.9	6.0
C6PZ3	P	28	0	50	1.6	8.1	8.3
DHSI	P	23	0	39	0.5	4.0	4.0
ELTY4	P	31	0	0	1.0	-5.7	5.8
FKJB	P	68	26	84	6.8	2.0	7.1
KF003	P	30	0	97	1.9	-8.6	8.9
KS049	P	231	0	0	0.8	-4.4	4.5
OWWS2	P	41	0	2	1.5	4.6	4.8
OZWA2	P	56	0	95	0.9	-6.1	6.2
S6HC6	P	28	0	71	1.1	4.3	4.5
TEST	P	133	100	100			
UCJL	P	35	0	14	0.9	-4.2	4.3
UCTK	P	49	0	100	1.2	-4.5	4.7
UCUC	P	37	0	49	2.3	5.1	5.5
UGNQ	P	24	0	0	0.4	-4.1	4.1
UGOU	P	52	4	69	1.5	-4.8	5.0
V2GR	P	30	53	57	0.8	0.7	1.1
V7FW8	P	39	0	5	1.0	11.2	11.3
WAQ3521	P	26	0	15	2.0	-6.2	6.5
WDB4655	P	32	0	100	1.4	-6.0	6.2
WDB9986	P	38	0	26	1.0	6.6	6.6
62202	P	21	0	100	0.4	-8.0	8.0

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8GQ8	SPEED	27	7	89	4.8	5.8	7.6
BBXX YJU	SPEED	42	0	100	4.7	5.7	7.4
HP6038	SPEED	224	0	0	3.8	5.0	6.2
MCUV3	SPEED	24	0	17	3.4	6.4	7.2
SHJC	SPEED	22	0	36	3.8	5.0	6.3
SIWB	SPEED	27	0	11	5.4	5.2	7.5
UBAW	SPEED	21	0	100	3.6	6.5	7.4
UCUF	SPEED	56	0	100	4.6	5.9	7.5
VEP717	SPEED	223	0	12	4.5	5.6	7.2
WBN2074	SPEED	22	0	23	4.6	5.5	7.2
YJUF7	SPEED	161	0	6	4.4	5.4	7.0
ZCDF8	SPEED	22	0	100	3.7	5.3	6.5
3FMV3	SPEED	51	0	57	7.9	5.7	9.7
9HGR8	SPEED	43	2	28	6.5	5.0	8.2

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
CGBR	DIRN.	25	0	0	27.3	-49.1	56.2
CGBY	DIRN.	31	0	0	28.0	-42.0	50.5
LAJV4	DIRN.	56	0	0	64.4	-35.4	73.5
OVZV2	DIRN.	22	0	0	109.6	32.9	114.4
TOUR	DIRN.	102	0	0	108.8	-14.1	109.7
VRY09	DIRN.	111	24	0	29.7	78.9	84.3
V7CG7	DIRN.	26	0	0	61.9	-31.1	69.3
ZQTP2	DIRN.	29	0	0	31.8	-30.2	43.8
23173	DIRN.	90	0	0	20.2	-45.4	49.7
23174	DIRN.	28	0	0	150.3	9.3	150.5
43001	DIRN.	89	0	0	86.2	22.6	89.1
46078	DIRN.	464	0	0	14.4	-38.0	40.6
52083	DIRN.	56	0	0	10.5	41.1	42.4
52084	DIRN.	225	0	0	66.5	-42.0	78.7

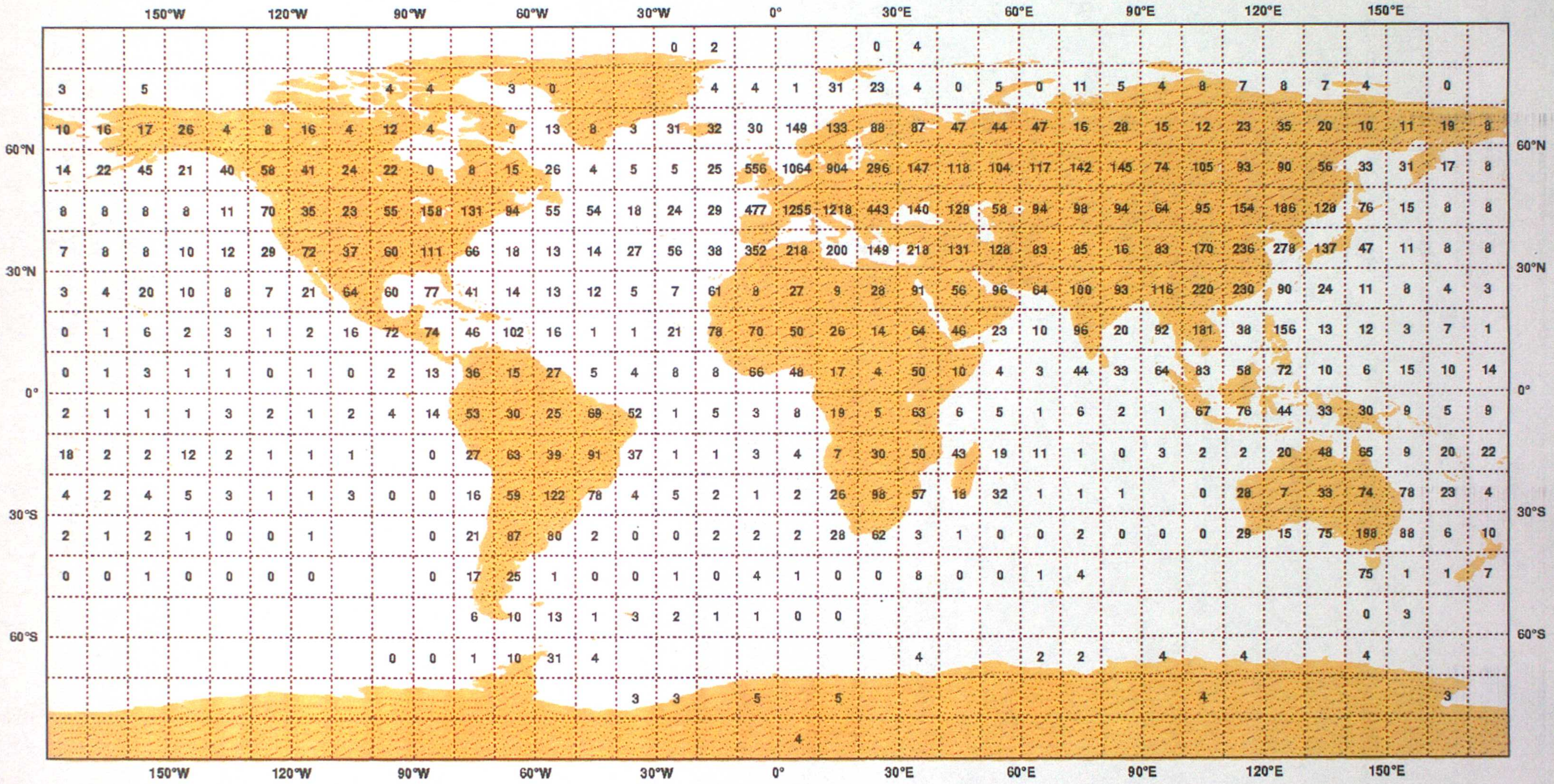
IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
KCB53	T	25	0	100	2.5	-4.0	4.7
TEST	T	133	100	100			
V7IP9	T	22	0	100	3.3	4.6	5.6
WBN5978	T	49	0	100	4.0	4.3	5.9

WCY2306	T	89	0	100	3.1	4.3	5.3
WNGW	T	41	29	100	2.6	2.0	3.3
WXJ63	T	221	8	100	3.1	7.5	8.1
WXN3191	T	72	26	100	2.5	2.1	3.3
44255	T	711	0	100	2.0	4.0	4.5
46081	T	709	0	100	2.1	4.5	5.0
46181	T	713	0	100	2.0	4.0	4.4

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
DHJW	RH	48	0	100	8.6	15.6	17.9
ELWX5	RH	72	0	100	30.7	-17.4	35.3
FNAT	RH	70	0	100	6.6	20.2	21.3
FNFP	RH	170	0	100	15.5	-23.4	28.1
OUEV	RH	96	0	100	25.3	-0.5	25.3
VCDT	RH	208	0	100	36.9	-44.7	58.0
VOPP	RH	194	0	100	14.6	-16.3	21.9
VRWB8	RH	26	0	100	9.1	17.0	19.3
VRZZ5	RH	44	0	100	7.9	-15.6	17.5
V7JC2	RH	83	0	100	11.3	-28.5	30.6
42039	RH	451	0	100	31.9	-21.5	38.5

IDENTIFIER	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
A8GA2	SST	28	4	100	3.0	-4.3	5.3
CGDR	SST	126	0	104	0.8	3.8	3.9
CG8049	SST	50	0	80	1.5	5.1	5.3
C6UG4	SST	41	0	78	1.8	-3.1	3.6
DHLP	SST	23	0	74	2.7	5.1	5.8
DNDD	SST	54	0	102	1.0	3.2	3.3
ELPL3	SST	21	5	57	3.3	-3.3	4.7
ELXU2	SST	27	0	100	1.4	-3.6	3.9
IBPW	SST	48	0	48	2.1	-4.6	5.0
KHRC	SST	50	0	100	1.9	-5.0	5.3
KRGB	SST	441	68	68	1.0	-0.2	1.1
OWEB2	SST	25	0	100	1.1	-3.3	3.5
P3ND5	SST	21	81	81	0.1	0.8	0.8
SIWB	SST	27	0	26	1.6	3.2	3.6
S6ES	SST	22	27	27	0.7	1.8	1.9
S6IW	SST	33	0	48	0.8	-3.5	3.6
S6PI	SST	30	0	97	3.1	6.8	7.5
TEST	SST	131	100	100			
VRBH4	SST	28	0	89	1.9	-3.0	3.6
VROB	SST	29	7	52	1.1	-3.6	3.8
VRRB	SST	25	0	40	1.8	-3.5	3.9
VRZN9	SST	50	2	74	2.0	3.3	3.8
V7IP9	SST	22	0	100	1.3	4.3	4.5
WAAH	SST	74	3	100	1.6	3.2	3.6
WCZ5528	SST	35	0	66	2.5	-3.7	4.5
WSRH	SST	31	0	100	1.0	-3.8	3.9
WXN3191	SST	26	58	58	1.3	0.1	1.3
WZJD	SST	24	0	100	0.6	-3.7	3.7
3FRR5	SST	67	0	97	0.9	-6.1	6.1
44004	SST	615	0	88	2.2	5.6	6.0
6ZXG	SST	26	0	58	1.1	3.6	3.8
9HGR8	SST	38	3	53	2.1	3.9	4.4

Figure 1. SHIP/SYNOP mean daily count. APRIL 2006
All hours
Global average number of observations in 24 hours = 21238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60°N 30°N 0° 30°S 60°S
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14 22 45 21 40 58 41 24 22 0 8 15 26 4 5 5 25 556 1064 904 296 147 118 104 117 142 145 74 105 93 90 56 33 31 17 8
8 8 8 8 11 70 35 23 55 158 131 94 55 54 18 24 29 477 1255 1218 443 140 129 58 94 98 94 64 95 154 186 128 76 15 8 8
7 8 8 10 12 29 72 37 60 111 66 18 13 14 27 56 38 352 218 200 149 218 131 128 83 85 16 83 170 236 278 137 47 11 8 8
3 4 20 10 8 7 21 64 60 77 41 14 13 12 5 7 61 8 27 9 28 91 56 96 64 100 93 116 220 230 90 24 11 8 4 3
0 1 6 2 3 1 2 16 72 74 46 102 16 1 1 21 78 70 50 26 14 64 46 23 10 96 20 92 181 38 156 13 12 3 7 1
0 1 3 1 1 0 1 0 2 13 36 15 27 5 4 8 8 66 48 17 4 50 10 4 3 44 33 64 83 58 72 10 6 15 10 14
2 1 1 1 3 2 1 2 4 14 53 30 25 69 52 1 5 3 8 19 5 63 6 5 1 6 2 1 67 76 44 33 30 9 5 9
18 2 2 12 2 1 1 1 0 27 63 39 91 37 1 1 3 4 7 30 50 43 19 11 1 0 3 2 2 20 48 65 9 20 22
4 2 4 5 3 1 1 3 0 0 16 59 122 78 4 5 2 1 2 26 98 57 18 32 1 1 1 0 28 7 33 74 78 23 4
2 1 2 1 0 0 1 0 21 87 80 2 0 0 2 2 2 28 62 3 1 0 0 2 0 0 0 29 15 75 198 88 6 10
0 0 1 0 0 0 0 0 17 25 1 0 0 1 0 4 1 0 0 8 0 0 1 4 75 1 1 7
6 10 13 1 3 2 1 1 0 0 0 3
0 0 1 10 31 4 4 2 2 4 4 4
3 3 5 5 4 3
4

TABLE 2

MONITORING OF MARINE SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - DRIFTING BUOYS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from each unique identifier for drifting buoys.

Standard of comparison :Background field from UKMO global model.

Position :Average latitude and longitude for period.

Observation times : All hours

Elements monitored
:Mean sea level pressure (hPa).
:Wind speed (m s^{-1}).
:Wind direction (degrees).
:Sea surface temperature (degrees).

Parameters monitored

:NOBS :Number of observations received excluding duplicates.

:PGE :Percentage of observations with gross errors.

:%REJ : Percentage of observations flagged excluding those with gross errors

:SD :SD of difference of observations from background values excluding those with gross errors.

:BIAS :Mean difference of observations from background values excluding those with gross errors.
N.B. a positive bias indicates the wind observation is veered to the background.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors.

GROSS ERROR LIMIT
:15 hPa (pressure)
:25 m s^{-1} (vector wind)
:10 degrees (sea surface temperature)

SELECTION CRITERIA : NOBS ≥ 20 , and one or more of the following:

1.|bias|	$\geq$ 4 hPa	(pressure),
	$\geq$ 5 m s^{-1}	(wind speed),
	$\geq$ 30 degrees	(direction).
	$\geq$ 3 degrees	(sea surface temperature).
2.SD	$\geq$ 6 hPa	(pressure),
	$\geq$ 80 degrees	(direction).
	$\geq$ 5 degrees	(sea surface temperature).
3.PGE	$\geq$ 25.	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
21966	42.4	175.2	P	57	0	100	2.0	6.0	6.3
23593	11.9	65.6	P	433	0	88	0.7	-5.0	5.0
23594	-2.8	48.7	P	468	0	88	0.7	-4.8	4.9
25574	85.6	39.1	P	28	100	100			
41502	13.3	-66.8	P	295	1	45	6.0	4.2	7.3
41537	16.7	-66.3	P	349	100	100			
41648	14.4	-45.2	P	347	44	51	1.4	0.4	1.4
42570	18.0	-80.1	P	303	5	43	2.8	4.2	5.1
68992	-54.4	3.3	P	1319	0	90	1.0	-4.6	4.7
71543	-52.6	19.7	P	97	1	100	1.0	-6.4	6.5

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41941	27.0	-95.5	SPEED	462	10	100	7.5	9.7	12.2

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
16513	-39.1	146.4	SST	32	0	66	1.9	-3.2	3.7
21542	38.7	132.7	SST	42	0	38	3.1	-3.0	4.4
22624	15.4	108.8	SST	34	0	88	2.6	-7.5	7.9
22625	18.6	121.0	SST	21	0	100	1.7	-4.4	4.7
22918	-7.4	121.7	SST	239	0	74	1.1	-3.3	3.5
22925	36.0	164.5	SST	783	3	58	2.4	-3.1	3.9
41623	33.7	-74.4	SST	680	0	72	1.3	3.7	3.9
41685	35.3	-57.0	SST	929	0	100	0.2	-3.0	3.0
41928	23.0	-74.9	SST	22	27	100	4.3	4.2	6.0
44501	47.9	-47.4	SST	620	96	100	0.5	9.5	9.5
44502	50.3	-49.4	SST	303	79	100	1.0	7.5	7.6
44503	44.5	-49.1	SST	263	100	100			
44504	51.2	-52.2	SST	324	30	100	1.2	8.2	8.3
44505	46.8	-48.4	SST	311	100	100			
44506	50.2	-51.6	SST	392	91	100	0.2	9.6	9.6
44774	40.0	-62.2	SST	714	0	58	1.1	-3.0	3.2
44780	51.4	-43.0	SST	713	0	89	1.0	3.0	3.2
51518	-16.2	154.8	SST	41	68	95	2.3	-5.4	5.9
51635	-0.9	152.0	SST	32	0	84	0.6	-3.3	3.3
51959	-8.8	160.7	SST	30	0	100	0.6	-3.0	3.0
52664	-2.0	147.3	SST	53	62	85	1.6	-2.7	3.1
56551	-10.2	119.5	SST	267	0	60	3.8	4.1	5.6
64613	64.9	-35.2	SST	58	0	100	1.3	6.0	6.2
71644	-50.8	41.6	SST	1036	80	100	0.3	9.8	9.8

Figure 2. DRIFTER mean daily count. APRIL 2006
All hours
Global average number of observations in 24 hours = 25777

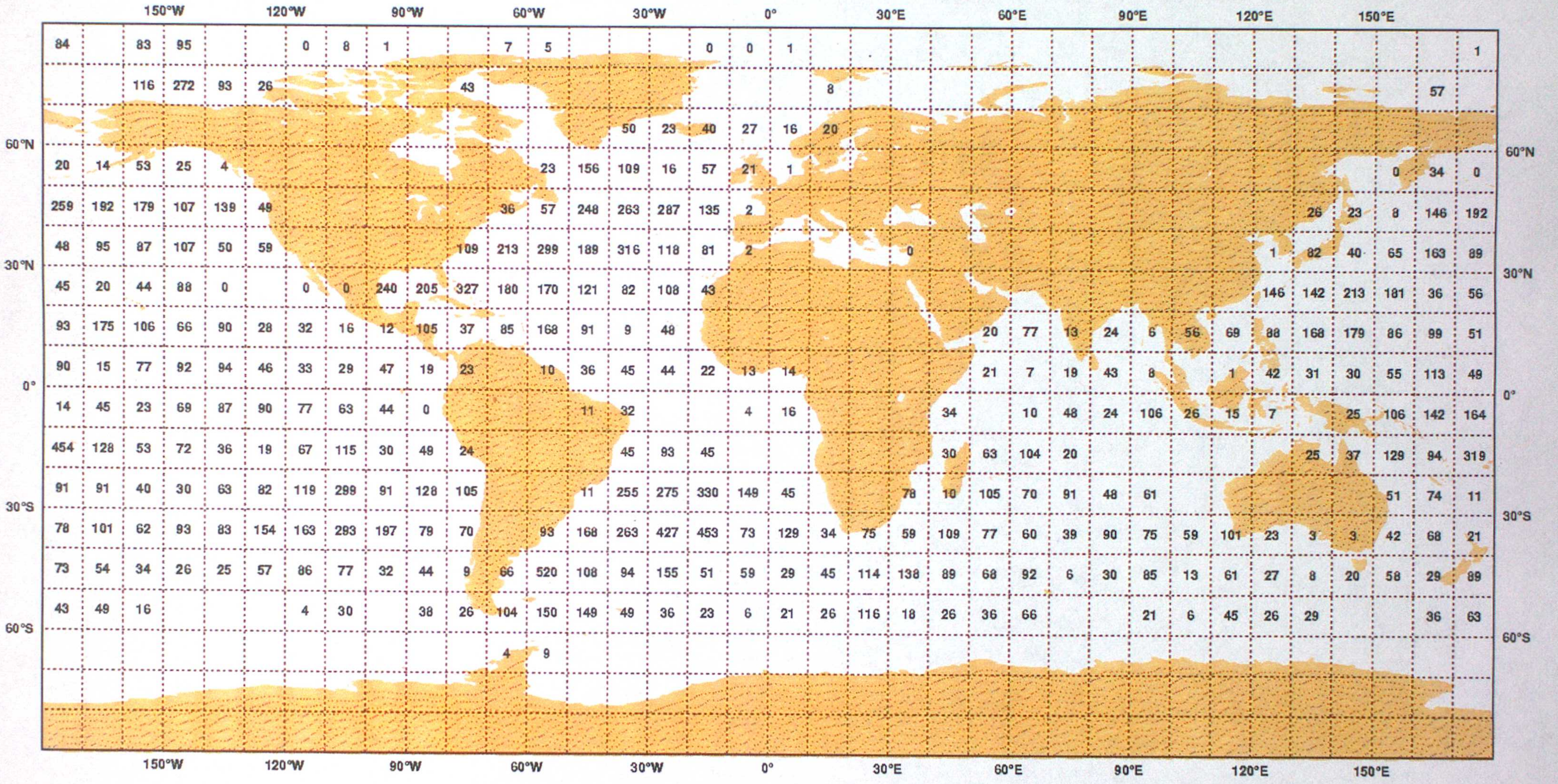

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
84 83 95 0 8 1 7 5 0 0 1 1
116 272 93 26 43 8 57
50 23 40 27 16 20
20 14 53 25 4 23 156 109 16 57 21 1 0 34 0
259 192 179 107 139 49 36 57 248 263 287 135 2 26 23 8 146 192
48 95 87 107 50 59 109 213 299 189 316 118 81 2 0 1 82 40 65 163 89
45 20 44 88 0 0 0 240 205 327 180 170 121 82 108 43 146 142 213 181 36 56
93 175 106 66 90 28 32 16 12 105 37 85 168 91 9 48 20 77 13 24 6 56 69 88 168 179 86 99 51
90 15 77 92 94 46 33 29 47 19 23 10 36 45 44 22 13 14 21 7 19 43 8 1 42 31 30 55 113 49
14 45 23 69 87 90 77 63 44 0 11 32 4 16 34 10 48 24 106 26 15 7 25 106 142 164
454 128 53 72 36 19 67 115 30 49 24 45 93 45 30 63 104 20 25 37 129 94 319
91 91 40 30 63 82 119 299 91 128 105 11 255 275 330 149 45 78 10 105 70 91 48 61 51 74 11
78 101 62 93 83 154 163 293 197 79 70 93 168 263 427 453 73 129 34 75 59 109 77 60 39 90 75 59 101 23 3 3 42 68 21
73 54 34 26 25 57 86 77 32 44 9 66 520 108 94 155 51 59 29 45 114 138 89 68 92 6 30 85 13 61 27 8 20 58 29 89
43 49 16 4 30 38 26 104 150 149 49 36 23 6 21 26 116 18 26 36 66 21 6 45 26 29 36 63
4 9

TABLE 3

MONITORING OF LAND SURFACE OBSERVATIONS
MONTHLY SUSPECT LIST - SYNOPS & AUTOSYNOPS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures		
Period		:One calendar month.
Data monitored		:Reports from each unique identifier for synops & autosynops.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00, 06, 12, 18 UTC
Elements monitored		:Surface pressure (hPa).
Parameters monitored	:HT(m)	:Station height (in metres) as given in WMO No. 9 Vol A
	:RP	:Pressure reporting practice M=mean sea level pressure (hPa) reported. S=Station level pressure reported. 8=Geopotential height (m) of 850 hPa surface reported. 7=Geopotential height (m) of 700 hPa surface reported.
	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:%REJ	:Percentage of observations flagged excluding those with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors.
GROSS ERROR LIMIT	:15 hPa	(pressure)
SELECTION CRITERIA	:NOBS	≥ 20 ,and one or more of the following:
	1.|bias|	≥ 4 hPa
	2. SD	≥ 6 hPa
	3.PGE	≥ 25.

N.B. For stn ht ≥ 500m, mslp is that calculated from station level pressure where available.
For stn ht < 500m, mslp is that as reported by the station where available.

SUSPECT SYNOPS (PRESSURE) BY WMO REGION APR 2006

WMO REGION 1:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
60423	36.3N	8.0E	680	S8	87	87	100	0			
61492	16.1N	13.5W	18	MS	71	0	0	4	1.9	4.5	4.9
61816	10.9N	14.3W	69	MS	40	18	45	0	0.7	-1.5	1.7
62056	32.8N	21.9E	625	S8	68	0	0	3	1.7	-5.4	5.7
63330	13.5N	39.5E	2070	MS	54	53	98	0	0.0	10.0	10.0
63333	11.1N	39.7E	1903	MS	81	1	1	0	1.0	5.2	5.3
63334	10.3N	37.7E	2515	MS	82	2	2	2	2.5	10.3	10.6
63450	9.0N	38.8E	2354	MS	100	0	0	0	0.9	4.3	4.4
63453	8.9N	39.9E	930	S	79	0	0	1	1.5	-4.0	4.3
63478	5.9N	43.6E	295	MS	25	0	0	0	0.8	5.4	5.5
63671	1.8N	40.1E	244	M	116	0	0	0	1.0	-5.1	5.2
63801	4.9S	29.6E	882	S8	72	1	1	0	1.2	8.1	8.2
63881	8.0S	31.6E	1923	S	47	1	2	0	1.5	12.5	12.6
67250	15.6S	32.8E	882	S8	24	24	100	17			
67295	19.1S	33.5E	731	S8	77	36	47	0	1.4	13.9	14.0
68014	19.6S	18.1E	1411	S8	73	0	0	0	0.5	-7.1	7.1
68030	18.5S	25.6E	1071	8	69	0	0	0	4.0	9.7	10.5
68102	19.9S	16.4E	1343	S8	115	0	0	0	0.5	6.4	6.4
68300	26.6S	15.1E	16	MS	99	2	2	1	0.8	-13.3	13.3
68312	26.5S	18.1E	1067	S8	69	0	0	0	0.7	4.6	4.7
68396	26.5S	31.3E	641	S8	55	0	0	0	0.4	4.4	4.4
68575	30.0S	30.0E	1175	S8	115	115	100	0			

WMO REGION 2:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
30554	54.5N	113.6E	995	MS	119	0	0	0	1.1	11.1	11.2
31534	50.4N	131.0E	230	MS	118	2	2	3	1.3	-5.4	5.6
35416	49.1N	54.7E	128	MS	118	0	0	0	0.5	4.1	4.1
36982	41.9N	78.2E	3635	S7	108	0	0	0	0.6	5.5	5.5
38846	38.4N	70.0E	1437	S8	81	1	1	0	1.6	-5.2	5.4
38944	37.5N	69.4E	448	MS	80	3	4	0	2.0	-6.3	6.6
40435	27.0N	44.1E	991	MS	56	0	0	0	1.2	7.8	7.9
40700	39.6N	47.9E	45	MS	115	1	1	0	0.9	-5.7	5.8
40713	37.4N	46.3E	1475	MS	115	19	17	1	1.3	13.3	13.4
40741	36.5N	61.2E	235	MS	116	0	0	0	0.9	-5.0	5.1
40743	36.2N	57.7E	978	MS	118	0	0	0	0.8	5.9	6.0
40757	35.6N	53.4E	1171	MS	116	0	0	0	1.0	4.5	4.6
40780	33.6N	46.4E	1362	MS	116	1	1	0	0.7	4.9	4.9
40854	29.1N	58.4E	1067	MS	115	1	1	0	0.9	10.7	10.7
41252	23.4N	56.5E	244	MS	91	0	0	0	0.6	-9.3	9.3
41254	23.1N	57.6E	1755	S8	119	119	100	0			
41466	13.7N	44.1E	1402	S8	84	0	0	0	0.7	-7.5	7.5
41536	34.4N	73.4E	980	8	51	0	0	88	2.1	8.1	8.4
47022	40.8N	128.2E	1224	S	98	0	0	0	0.8	6.0	6.1
47678	33.1N	139.8E	79	MS	119	0	0	0	0.8	-9.4	9.4
48920	8.7N	111.9E	3	MS	102	0	0	0	0.5	5.9	5.9
48921	21.6N	101.9E	923	S	35	35	100	0			
48924	21.1N	101.5E	644	S	48	0	0	0	0.9	11.9	11.9
48925	20.7N	102.0E	550	S	29	0	0	0	0.7	-9.4	9.4
48938	19.2N	101.7E	326	MS	51	32	63	0	0.4	14.4	14.4
50978	45.3N	130.9E	234	MS	119	0	0	0	0.7	-6.0	6.0
52866	36.6N	101.8E	2262	S	119	0	0	0	0.9	-4.3	4.4
53646	38.3N	109.8E	1058	MS	119	0	0	0	0.6	-12.2	12.2
54292	42.9N	129.5E	178	MS	119	0	0	0	0.9	-9.5	9.5
56462	29.0N	101.5E	2994	S	119	0	0	0	1.2	8.7	8.8
56768	25.0N	101.5E	1773	S	118	0	0	0	0.8	-5.2	5.3

57816	26.6N	106.7E	1074	MS	119	76	64	0	0.5	-14.4	14.4
59023	24.7N	108.1E	214	MS	119	0	0	0	0.8	-5.3	5.4
59663	21.8N	112.0E	22	MS	119	0	0	0	0.6	-7.7	7.7

WMO REGION 3:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
80426	9.4N	70.6W	582	MS	31	1	3	0	1.1	4.6	4.7
82181	2.0S	54.1W	146	MS	84	0	0	0	1.6	5.6	5.8
83235	12.4S	46.4W	604	MS	71	0	0	0	1.5	5.8	6.0
83332	14.1S	46.4W	826	MS	73	12	16	0	0.8	13.5	13.5
83470	17.9S	50.9W	727	MS	70	0	0	0	0.9	-5.5	5.6
83531	18.6S	46.5W	940	MS	86	0	0	1	1.2	-5.9	6.0
83738	22.5S	44.5W	440	MS	86	0	0	76	1.0	-4.5	4.6
83836	25.5S	50.6W	837	MS	87	0	0	1	1.1	-4.5	4.6
83970	31.3S	50.9W	4	MS	76	1	1	1	1.1	-5.4	5.5
84132	0.9S	75.4W	215	MS	29	0	0	3	1.9	4.9	5.3
84140	1.1S	79.5W	73	MS	35	0	0	0	0.7	6.7	6.7
84143	1.0S	78.6W	2628	S7	29	0	0	3	1.2	-5.1	5.2
84160	1.3S	78.6W	2940	S7	35	1	3	0	0.7	13.6	13.6
84377	3.8S	73.3W	125	MS	108	0	0	0	1.6	4.3	4.6
84425	5.9S	76.1W	179	MS	22	0	0	0	1.2	6.3	6.4
84452	6.8S	79.8W	29	MS	106	0	0	0	1.1	4.6	4.7
84455	6.5S	76.4W	281	MS	80	0	0	0	1.7	7.0	7.2
84472	7.1S	78.5W	2620	S	51	0	0	0	0.6	-5.6	5.6
84474	7.2S	76.7W	350	S	21	1	5	5	1.2	10.0	10.1
84686	13.6S	72.0W	3248	S	108	0	0	0	0.7	-4.2	4.3
84688	13.7S	73.4W	3444	S	40	0	0	0	0.8	-12.5	12.5
85140	14.3S	67.4W	140	MS	58	0	0	0	1.9	9.8	10.0
85264	18.5S	64.1W	1998	S	55	55	100	0			
85312	19.8S	63.9W	992	S	39	0	0	0	1.2	-8.3	8.4
85406	18.5S	70.2W	55	M	115	0	0	0	0.8	4.0	4.1
85432	22.5S	68.9W	2320	S8	76	0	0	0	0.5	4.1	4.1

WMO REGION 4:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
71060	52.5N	116.1W	230	MS	118	118	100	0			
71181	47.1N	55.3W	29	MS	119	0	0	0	0.7	-5.6	5.6
71581	54.5N	128.6W	215	MS	119	69	58	0	3.7	-10.1	10.8
71979	53.8N	118.4W	1542	MS	110	0	0	0	0.6	10.1	10.1
72376	36.7N	108.2W	1678	MS	116	90	78	0	0.8	-0.6	1.0
76055	31.0N	114.9W	440	MS	60	60	100	0			
76225	28.6N	106.1W	1435	MS	82	0	0	1	1.1	-4.3	4.4
76382	25.5N	103.5W	1124	MS	86	0	0	0	0.6	4.1	4.1
76543	22.0N	98.8W	104	MS	37	0	0	0	1.1	9.2	9.3
76658	19.2N	103.7W	494	MS	39	1	3	0	0.9	5.7	5.8
76762	17.5N	99.5W	1265	MS	93	0	0	0	0.8	5.3	5.4
76843	16.8N	93.1W	528	MS	110	0	0	0	1.1	-5.2	5.3
78588	17.2N	87.5W	-297	M	119	119	100	0			

WMO REGION 5:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
92010	6.1S	145.4E	1587	M	25	0	0	4	1.6	9.9	10.0
94130	14.8S	131.9E	120	MS	119	0	0	0	0.8	5.8	5.9
97284	8.6S	120.5E	1170	S8	80	0	0	0	0.7	4.6	4.7
97378	10.7S	123.1E	1	MS	39	38	97	0	0.0	-14.8	14.8

WMO REGION 6:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
01360	61.9N	7.9E	711	MS	107	0	0	0	1.0	6.2	6.3
04330	74.3N	20.2W	44	MS	111	0	0	0	0.9	-4.7	4.8
04416	72.6N	38.4W	3202	S	88	3	3	3	1.9	4.1	4.5
06239	54.9N	44.7E	49	MS	356	26	7	0	5.3	-4.2	6.8
08226	40.7N	3.2W	639	MS	55	0	0	78	0.7	-4.6	4.7
10850	48.8N	10.7E	457	MS	356	0	0	0	0.4	-5.7	5.7
11116	47.5N	10.8E	870	MS	54	1	2	2	1.0	4.3	4.4
13269	44.3N	19.9E	176	MS	119	0	0	0	0.6	7.7	7.7
14554	44.9N	18.4E	136	S	57	2	4	0	0.7	-13.6	13.6
16344	39.3N	16.4E	1710	S8	301	0	0	0	1.2	4.4	4.6
16538	40.1N	9.3E	1022	S	27	0	0	0	1.1	9.2	9.3
17521	35.2N	33.5E	285	MS	82	81	99	0	0.0	14.0	14.0
40030	35.1N	36.8E	301	M	94	0	0	0	1.0	-4.1	4.2

ANTARCTIC:

STATION	LAT	LONG	HT(M)	RP	NOBS	NGE	PGE	%REJ	SD	BIAS	RMS
89253	63.2S	55.4W	75	M	53	0	0	13	0.8	4.5	4.6
89263	66.0S	66.1W	20	M	188	20	11	0	5.6	5.4	7.8
89266	72.2S	60.2W	91	S	328	326	99	0	9.6	-0.5	9.6
89512	70.8S	11.8E	140	M	116	0	0	0	1.7	-4.1	4.4
89610	65.9S	113.1E	90	S	322	0	0	1	1.2	-9.0	9.1
89614	66.7S	111.5E	500	M	321	321	100	0			
89661	73.5S	169.8E	200	S	420	419	100	0			
89666	76.7S	163.0E	200	S	435	1	0	2	1.2	6.1	6.2
89769	78.5S	168.4E	50	S	822	0	0	0	1.7	-4.2	4.5
89811	66.7S	112.5E	1366	S	331	0	0	0	1.0	-4.5	4.6
89815	66.6S	110.7E	63	S	308	0	0	1	1.7	-4.0	4.3

TABLE 4A

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :90°N - 90°S, 180°W - 180°E.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored

:N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

		TEMPERATURE						WIND			
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAH	1567	0	16	1.5	0.1	1564	0	16	0	5.8	0.1
AAL	8015	0	7	1.4	0.1	7612	0	7	0	5.2	0.5
AAR	694	0	2	1.6	-0.4	679	0	3	0	8.0	-0.4
ACA	2632	0	8	1.4	-0.2	2268	0	8	0	5.9	0.5
ACF	59	10	54	3.5	0.0	39	0	69	0	21.8	3.0
ACI	140	0	19	0.7	0.0	136	0	20	0	7.3	-0.6
AEA	1335	1	3	1.7	0.5	1096	0	4	0	6.9	0.3
AFL	367	1	6	1.9	0.1	151	1	20	0	7.9	0.3
AFR	5311	0	4	1.3	0.0	5111	0	4	0	5.4	0.3
AFZ	41353	0	11	1.4	0.9	41353	0	11	0	5.4	0.8
AJM	268	0	7	1.4	-0.3	204	0	12	0	11.1	-0.1
AJX	250	0	3	1.7	0.7	248	0	3	0	7.8	0.3
AMT	1207	0	10	1.2	-0.2	1208	0	10	0	5.5	0.0
AMX	456	0	5	1.8	0.1	373	0	5	0	9.4	0.6
ANA	28	0	0	1.6	-0.2	28	4	14	0	8.8	-1.1
ANZ	7365	0	31	1.3	0.2	7331	0	31	0	6.4	0.1
ARG	21	0	33	1.2	0.0	21	0	33	0	8.6	1.1
ATN	96	2	100	3.9	-2.3	83	1	12	0	12.0	3.5
AUA	381	0	3	1.4	0.0	363	0	4	0	5.0	0.6
AVA	417	1	3	1.6	0.0	420	0	4	0	8.7	-0.1
AVN	135	0	47	1.0	-0.1	134	0	49	0	8.6	-1.0
AWE	849	1	4	1.4	-0.6	839	0	5	0	6.8	0.0
AXF	53	0	34	1.2	0.4	53	0	36	0	5.3	-0.7
AZA	482	1	10	2.1	0.6	379	0	4	0	6.5	-0.2
BAL	388	1	6	1.6	-0.1	381	0	7	0	8.3	-0.1
BAW	714	1	26	1.8	-0.6	443	0	20	0	7.6	0.4
BBR	202	0	5	1.5	-0.5	197	0	5	0	8.3	-0.3
BHP	88	1	2	1.6	-0.1	78	0	5	0	9.2	-0.5
BMA	404	0	1	1.5	-0.4	368	0	1	0	5.4	0.7
BPA	548	1	12	2.1	0.7	527	0	9	0	9.4	0.4
BWA	386	1	5	1.6	-0.2	314	1	5	0	8.3	0.5
CAL	35	0	6	1.6	-0.6	37	0	14	0	11.3	-2.1
CCA	227	2	12	2.6	0.1	203	0	100	0	12.3	-1.3
CES	452	1	8	2.1	0.0	451	1	8	0	9.7	0.3
CFC	25	0	4	2.2	-0.3	23	0	4	0	6.3	1.2
CFG	969	1	4	1.4	0.2	801	0	5	0	8.2	0.0
CFY	50	0	0	1.0	-0.7	49	0	0	0	3.7	1.1
CGF	490	0	1	1.1	-0.3	477	0	1	0	3.5	0.6
CGH	414	0	1	1.1	-0.2	400	0	2	0	3.2	0.4
CKK	193	1	3	2.0	0.5	192	1	5	0	8.8	-0.1
CKS	257	0	11	1.6	-0.2	199	0	15	0	8.9	0.1
CLX	236	0	5	1.6	-0.6	120	0	19	0	10.5	0.4
CNJ	31836	0	75	1.2	0.5	31836	0	75	0	4.7	0.5
COA	4782	0	8	1.3	0.0	4521	0	7	0	4.7	0.6
CRL	113	0	4	1.8	-0.3	109	0	3	0	4.9	-0.3
CSA	39	3	3	1.2	-0.7	31	0	3	0	7.4	0.3
CSD	124	0	6	2.3	0.6	71	0	6	0	7.0	0.3
CSN	139	0	5	2.0	0.2	140	0	5	0	9.3	-0.2
CUB	319	0	10	1.7	-0.4	245	0	100	0	11.0	-0.5
DAB	1030	0	4	1.2	-0.2	961	0	4	0	3.5	0.7
DAI	1128	0	7	1.1	0.3	1044	0	6	0	3.6	0.7
DAL	4159	0	26	1.5	0.4	4042	0	26	0	5.7	0.4
DCS	32	0	16	3.0	-0.7	21	0	0	0	5.5	0.1
DLH	5433	0	5	1.3	0.0	5282	0	5	0	4.3	0.5
DRD	440	0	3	1.8	-0.5	438	0	4	0	7.4	0.3
EDW	71	0	6	1.7	-0.2	57	0	9	0	9.8	-0.7
EEZ	123	0	11	2.0	0.1	123	0	9	0	7.2	0.5
EIA	283	1	88	1.5	-0.3	254	0	100	0	18.2	4.4
ELY	347	0	3	1.2	0.2	297	0	4	0	5.0	0.5

		TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
EVA	261	0	3	1.6	0.3	262	0	5	0	6.9	0.4
FCA	165	0	10	1.6	0.3	129	0	6	0	9.7	-0.5
FDX	1064	1	38	1.3	0.2	941	0	38	0	6.2	0.3
FGE	40	0	0	1.0	-0.3	36	0	0	0	3.5	0.1
FGI	332	0	0	1.2	-0.2	318	0	0	0	3.8	0.6
FGL	97	0	2	1.0	0.1	94	0	2	0	3.4	0.6
FGN	33	0	3	0.9	0.1	31	0	0	0	3.4	0.5
FGS	493	0	1	1.1	0.2	483	0	1	0	3.6	0.7
FGZ	91	0	0	1.2	0.0	89	0	0	0	3.5	0.3
FIN	159	0	2	1.4	0.5	101	0	3	0	5.3	-0.2
FJI	758	1	31	1.7	0.6	751	0	30	0	7.2	0.5
FNJ	21	0	0	0.9	0.4	21	0	0	0	5.6	0.5
FNR	24	0	0	0.9	-0.1	23	0	4	0	9.8	0.1
FOM	620	0	26	1.4	-0.2	617	0	27	0	6.3	0.2
FWI	607	1	6	1.6	-0.5	583	1	5	0	7.6	0.3
GCO	61	3	7	1.2	0.0	62	0	84	0	9.0	1.2
GEC	485	0	23	1.4	-0.1	461	1	23	0	7.8	0.7
GLO	33	9	42	2.3	1.0	31	0	35	0	16.5	0.1
GOJ	60	0	7	2.1	0.1	55	0	2	0	4.2	1.0
GRL	74	0	1	1.3	0.2	56	0	4	0	6.2	0.1
GTI	128	0	5	1.9	0.3	103	0	5	0	8.6	0.4
GVA	70	0	10	1.1	0.1	67	0	10	0	3.8	0.5
GVB	81	0	2	1.1	0.0	76	0	3	0	3.9	0.4
GVE	23	26	52	4.9	2.9	23	0	4	0	5.0	2.4
GVF	105	0	5	1.1	-0.4	103	0	5	0	3.6	0.9
GVG	64	0	3	1.5	-0.9	63	0	3	0	3.6	1.3
GVH	91	0	3	1.2	-0.2	85	0	4	0	3.7	0.4
GVL	34	0	3	1.1	-0.1	32	0	3	0	3.7	0.7
GVM	22	0	5	1.2	-0.2	22	0	5	0	3.4	0.4
GVR	189	0	5	1.2	0.0	182	0	5	0	4.7	0.8
GVS	30	0	3	1.2	-0.2	30	0	3	0	3.8	0.3
GVT	32	0	3	1.2	-0.1	32	0	3	0	3.7	1.5
GVW	100	0	2	0.9	-0.2	92	0	2	0	3.3	0.9
GVX	91	0	2	1.1	0.0	89	0	2	0	3.9	0.1
GWW	96	0	5	1.2	0.0	94	0	5	0	3.8	0.2
HAL	3070	0	16	1.6	0.3	3047	0	16	0	6.9	0.1
HBI	225	0	3	1.4	-0.5	217	0	3	0	4.2	0.7
HBJ	121	0	3	0.9	-0.2	107	0	3	0	3.0	0.6
HMY	58	0	10	1.0	-0.1	58	0	10	0	6.1	-0.5
IBE	4191	1	4	1.5	-0.1	4127	0	5	0	7.7	0.3
ICE	1031	0	2	1.5	0.2	528	0	1	0	5.5	0.8
ISR	51	0	14	2.7	-0.7	22	0	0	0	4.2	0.5
IWD	614	1	4	1.7	-0.5	606	0	3	0	7.0	0.6
JAL	806	0	5	1.7	0.0	795	1	6	0	7.7	-0.1
JAZ	718	0	3	1.6	0.2	717	0	4	0	8.3	0.4
JST	582	0	27	1.4	-0.2	581	0	27	0	6.4	0.4
KAC	107	0	1	1.3	0.4	104	0	1	0	3.6	0.7
KAI	25	4	8	2.8	2.0	20	0	5	0	6.2	2.0
KAL	1102	1	4	1.7	0.1	1102	1	6	0	7.5	-0.3
KIW	34	6	41	1.7	-0.2	34	0	38	0	6.2	-1.9
KLM	1602	0	7	1.5	0.0	1251	0	9	0	7.8	0.4
LAN	738	0	1	1.4	0.1	738	0	1	0	4.5	0.4
LAP	35	0	43	3.5	2.2	34	0	44	0	16.5	-0.4
LCO	40	0	10	1.7	-0.2	35	0	0	0	6.9	0.5
LNE	222	1	4	1.7	0.0	223	0	3	0	8.3	0.3
LNR	422	0	53	1.2	-0.2	410	0	52	0	3.3	0.6
LOT	250	0	2	1.6	-0.7	141	0	3	0	5.9	0.8
LTU	996	1	5	1.7	0.0	782	0	5	0	7.2	0.9
LVG	262	1	7	1.8	0.1	236	0	7	0	8.5	0.7

	TEMPERATURE					WIND				
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
MAS	446	0	5	1.5	0.3	438	0	5	0	6.2	0.3
MPD	492	1	3	1.3	0.1	467	0	4	0	8.2	0.2
MPH	233	0	4	1.7	-1.1	187	0	6	0	8.1	-1.1
MSR	141	0	1	1.1	0.6	136	0	1	0	4.7	0.8
MXJ	326	2	10	1.6	-0.1	185	0	7	0	5.7	0.4
MYT	197	1	11	1.9	-0.1	134	0	10	0	8.5	0.5
NAO	93	0	5	2.0	-0.1	84	1	7	0	10.2	0.1
NCA	583	0	2	1.6	0.2	477	0	3	0	7.4	0.4
NOS	288	1	8	1.8	0.3	215	0	10	0	8.4	0.3
NVR	41	2	12	2.7	-1.1	25	0	12	0	8.5	0.2
NWA	8490	0	9	1.6	0.0	8352	0	9	0	7.4	0.2
NZL	6376	0	10	1.1	0.0	6376	0	10	0	4.9	0.3
OAE	341	0	12	1.4	-0.4	223	0	11	0	7.9	-0.1
OOM	108	2	4	1.8	0.1	85	0	2	0	6.8	1.1
OYK	549	0	53	1.1	-0.2	518	0	53	0	3.3	0.7
PAC	433	0	3	1.6	0.0	394	0	3	0	7.7	-0.5
PAL	1610	0	2	1.6	-0.1	1600	0	6	0	9.2	0.2
PBI	1196	0	44	1.2	-0.2	1193	0	44	0	7.1	0.3
PLM	346	1	3	1.9	0.5	300	0	2	0	7.6	-0.3
QFA	4092	0	56	1.3	0.1	4062	0	56	0	6.0	0.1
RAM	411	0	7	1.9	0.0	329	0	9	0	10.0	0.0
RCH	347	1	100	3.7	-0.6	266	0	100	0	10.4	1.3
RRR	35	0	11	2.4	-0.2	32	0	6	0	6.1	0.4
RZO	789	1	6	2.0	-0.6	772	0	5	0	7.4	0.4
SAA	72	0	24	2.4	-0.8	69	1	20	0	9.0	0.6
SAS	1083	0	66	1.3	-0.2	1069	0	66	0	3.9	0.7
SER	487	0	56	1.2	0.1	467	0	56	0	3.6	0.7
SEU	555	1	9	1.7	-0.5	492	0	9	0	9.0	0.7
SIA	721	0	4	1.3	0.2	713	0	4	0	4.5	0.4
SLM	143	0	8	1.3	-0.2	143	0	15	0	11.1	0.7
SOO	34	0	6	1.6	0.4	37	0	5	0	6.6	0.2
SQC	305	0	2	1.4	-0.1	300	0	1	0	5.1	0.3
SVH	493	0	7	1.3	1.0	493	0	7	0	5.5	-0.1
SWR	1603	0	3	1.4	-0.4	1543	0	3	0	4.4	0.7
TAM	59	3	46	2.3	0.4	60	0	42	0	13.2	0.2
TAP	916	1	3	1.7	-0.5	849	0	4	0	7.4	0.4
TCV	45	2	100	3.4	3.1	44	0	11	0	13.2	-0.6
TCX	302	1	11	2.5	0.6	281	0	2	0	4.8	0.8
TFL	170	0	7	1.6	0.1	124	0	8	0	8.9	-0.4
THA	213	0	10	1.4	0.5	206	0	9	0	4.6	0.2
THT	1865	0	26	0.9	0.2	1821	0	26	0	6.6	-2.3
TSC	72	3	6	1.3	-0.2	40	0	3	0	3.9	0.6
TSO	40	48	48	2.0	-0.2	36	0	14	0	12.5	-0.3
TUB	87	0	2	1.3	0.2	56	0	4	0	9.2	0.0
UAE	1125	0	6	1.3	0.3	1118	0	6	0	4.4	0.3
UAL	11186	0	22	1.4	-0.2	11272	0	22	0	6.2	0.7
UPS	1437	0	51	1.6	0.0	1004	0	50	0	6.5	0.2
USA	1713	0	2	1.3	-0.1	1614	0	2	0	4.4	0.7
UTY	49	0	45	0.6	-0.1	49	0	45	0	4.9	0.3
VCV	114	2	2	1.7	0.7	106	0	5	0	7.8	-0.4
VIR	2766	0	4	1.4	-0.2	2655	0	3	0	4.5	0.4
VLE	50	2	4	1.8	-1.2	45	0	2	0	9.3	-0.6
VRG	59	3	34	2.5	0.8	58	2	34	0	12.1	-0.4
VVJ	39	0	13	0.8	-0.1	39	0	15	0	7.2	1.4
VVR	49	10	18	2.0	0.1	49	0	8	0	7.0	0.3
WHT	130	1	4	1.6	-0.2	109	1	6	0	7.9	0.6
WOA	280	1	8	1.5	0.2	218	0	15	0	11.8	1.6
XLA	115	2	7	2.1	1.1	111	1	8	0	10.3	-0.7
ZKN	118	0	2	1.1	-0.1	118	0	2	0	3.7	0.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
ZKS	62	0	3	1.3	-0.3	61	0	2	0	4.6	1.5
9VS	71	0	1	1.1	-0.1	70	0	1	0	4.2	0.5

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	55709	0	16	1.1	0.4	55753	0	16	0	5.0	0.4
B-	18799	1	62	1.6	0.6	13764	1	70	0	6.8	0.2
EU	302599	0	28	1.2	0.2	302598	0	27	0	4.1	0.3
HK	7068	0	9	1.2	0.1	7068	0	9	0	5.0	0.4
HZ	22	0	0	1.1	0.0	21	0	0	0	5.8	1.4
JP	61033	0	65	1.8	0.7	61033	0	65	0	5.7	0.4
MK	2838	0	4	1.9	1.7	2837	0	4	0	6.4	1.3
SA	3947	0	11	1.0	0.3	3947	0	11	0	4.9	0.5
TN	31	0	3	1.9	0.5	32	0	3	0	4.8	-0.5
UA	292657	0	99	1.3	-0.2	292493	0	99	0	5.2	0.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
N	6211	0	13	1.4	0.0	5834	0	13	0	4.4	0.5
S	24	0	0	1.1	0.0	24	0	0	0	3.9	0.7
US AMDAR	1170869	0	68	1.3	0.2	1170850	0	68	0	5.4	0.6

TABLE 4B

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

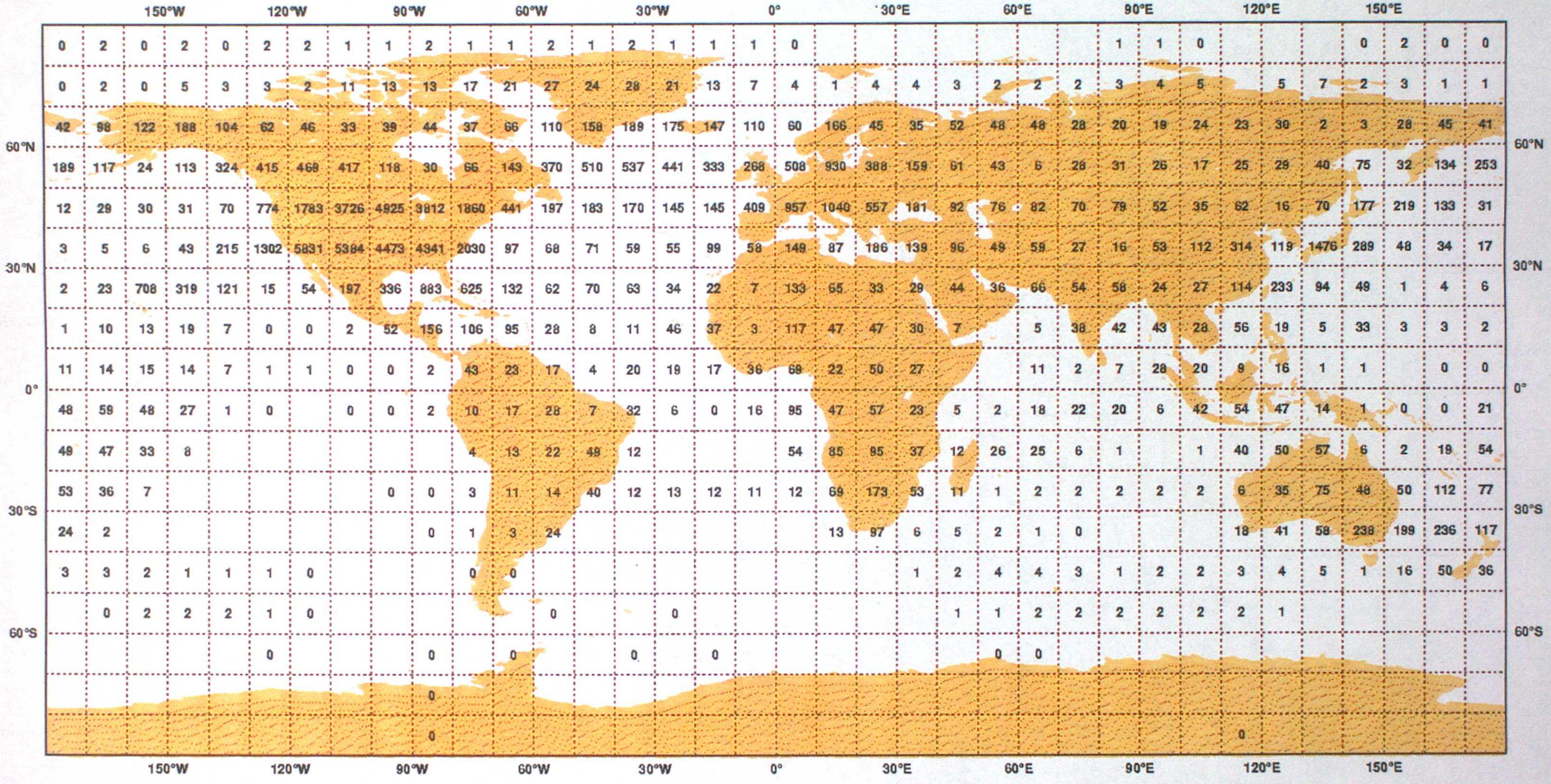
Period		:One calendar month.
Data monitored		:Statistics for each airline carrier.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:All hours combined.
Level(s) monitored		:1000.0 – 300.1 hPa
Elements monitored		:TEMP in °C ; WIND in m s^{-1}
Parameters monitored	:N REP.	:Number of observations received excluding duplicates.
	:PG	:Percentage of observations with gross errors.
	:PR	:Percentage of observations rejected by quality control including rejections from the duplicate check.
	:PC	:Percentage of observations with calm winds.
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors in Temperature & Wind Speed.
GROSS ERROR LIMITS		:10.0 °C ; 60 m s^{-1} Vector Wind
SELECTION CRITERIA		:N REP ≥ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS".

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	133	0	10	1.1	0.0	118	0	10	0	5.0	0.5
ACA	41	0	20	1.1	0.7	44	0	18	0	5.6	1.5
AFR	86	1	15	1.2	0.3	82	0	12	0	4.5	-0.1
AFZ	44614	0	68	1.3	-0.4	44614	0	68	0	4.0	0.2
ANZ	305	1	14	1.4	0.2	311	0	14	0	8.4	0.5
AXF	42	0	62	1.0	0.1	41	0	61	0	7.5	0.7
CFC	76	1	1	1.4	0.3	60	0	0	0	4.7	1.5
CKS	35	0	9	1.7	0.1	24	0	4	0	9.1	0.6
CNJ	706253	0	85	1.8	0.7	706253	0	85	0	5.0	-0.2
COA	101	0	6	0.9	-0.2	99	0	6	0	3.9	1.5
DAL	114	0	22	1.4	0.1	111	0	19	0	5.5	0.7
DLH	25	0	8	0.7	0.3	25	0	8	0	3.3	-0.2
FDX	539	1	31	1.2	0.3	310	0	26	0	6.6	-0.2
FJI	21	0	43	2.7	1.6	21	0	43	0	10.7	3.5
GCO	77	0	8	1.2	0.2	69	0	72	0	11.6	1.6
GEC	219	0	20	1.0	0.1	200	0	18	0	6.8	0.8
HAL	243	2	15	1.8	0.1	243	0	13	0	7.7	1.7
IBE	20	0	0	1.0	0.0	20	0	0	0	5.3	0.2
JAL	32	0	13	1.7	-0.1	32	0	13	0	7.8	-0.9
KAL	42	0	0	1.3	0.2	42	0	2	0	6.2	-0.1
KIW	75	1	47	2.8	1.1	74	0	43	0	9.7	-1.8
KLM	56	0	4	1.0	0.0	35	0	6	0	7.1	0.8
LAN	57	0	9	1.1	0.1	57	0	9	0	4.8	0.8
MAS	34	0	3	1.0	0.5	34	0	3	0	4.9	-0.1
NCA	59	2	2	1.1	0.2	51	0	2	0	7.0	0.1
NWA	226	1	12	1.6	-0.3	221	1	14	0	9.1	-0.5
NZL	25403	0	56	0.9	0.1	25402	0	56	0	4.3	-0.4
OCE	30	3	10	3.2	2.5	30	0	7	0	8.0	0.7
PAL	29	0	0	1.1	-0.1	29	0	0	0	6.2	1.1
QFA	100	2	43	1.3	0.0	103	0	42	0	5.3	0.8
RCH	33	0	100	2.5	0.8	30	0	100	0	6.7	0.7
RRR	32	0	25	3.9	2.7	31	0	13	0	7.6	-1.1
SIA	100	0	3	1.0	0.5	102	0	4	0	4.8	0.4
SVH	21352	0	59	1.6	0.9	21353	0	59	0	4.7	0.5
THA	23	0	13	1.3	0.9	23	0	13	0	5.9	-1.5
THT	230	3	59	1.6	-0.3	187	0	51	0	5.4	-1.4
UAE	100	0	5	1.0	0.4	102	0	5	0	4.1	-0.1
UAL	146	7	34	1.3	-0.3	159	0	32	0	12.0	1.5
UPS	205	0	48	1.2	-0.2	118	0	50	0	5.6	0.6
WOA	122	0	3	1.0	0.4	95	0	20	0	13.7	2.9

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AU	57068	0	61	1.1	0.4	57151	0	61	0	4.0	0.0
B-	80688	0	75	1.4	0.2	72491	0	77	0	4.9	0.3
EU	653439	0	66	0.9	0.1	648591	0	66	0	3.6	0.1
HK	21962	0	87	1.1	0.2	21962	0	87	0	4.2	0.2
JP	272469	0	81	1.3	0.3	272469	0	81	0	4.6	0.4
MK	3094	0	53	1.3	0.8	3094	0	53	0	4.4	0.7
SA	3628	0	75	1.2	0.1	3628	0	75	0	4.2	0.2
UA	239490	0	99	1.0	-0.3	239200	0	99	0	4.3	0.4
N	58	0	9	1.3	0.3	49	0	10	0	6.0	1.2
US AMDAR	1887920	0	81	1.1	0.2	1883231	0	82	0	4.2	0.3

Figure 3a. AIRCRAFT 300 - 150 hPa mean daily count. APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 70673



0	2	0	2	0	2	2	1	1	2	1	1	2	1	2	1	1	1	0								1	1	0				0	2	0	0
0	2	0	5	3	3	2	11	13	13	17	21	27	24	28	21	13	7	4	1	4	4	3	2	2	2	3	4	5		5	7	2	3	1	1
42	98	122	188	104	62	46	33	39	44	37	66	110	158	189	175	147	110	60	166	45	35	52	48	48	28	20	19	24	23	30	2	3	28	45	41
189	117	24	113	324	415	469	417	118	30	66	143	370	510	537	441	333	268	508	930	388	159	61	43	6	28	31	26	17	25	29	40	75	32	134	253
12	29	30	31	70	774	1783	3726	4925	3812	1860	441	197	183	170	145	145	409	957	1040	557	181	92	76	82	70	79	52	35	62	16	70	177	219	133	31
3	5	6	43	215	1302	5831	5384	4473	4341	2030	97	68	71	59	55	99	58	149	87	186	139	96	49	59	27	16	53	112	314	119	1476	289	48	34	17
2	23	708	319	121	15	54	197	336	883	625	132	62	70	63	34	22	7	133	65	33	29	44	36	66	54	58	24	27	114	233	94	49	1	4	6
1	10	13	19	7	0	0	2	52	156	106	95	28	8	11	46	37	3	117	47	47	30	7		5	38	42	43	28	56	19	5	33	3	3	2
11	14	15	14	7	1	1	0	0	2	43	23	17	4	20	19	17	36	69	22	50	27			11	2	7	28	20	9	16	1	1		0	0
48	59	48	27	1	0		0	0	2	10	17	28	7	32	6	0	16	95	47	57	23	5	2	18	22	20	6	42	54	47	14	1	0	0	21
49	47	33	8							4	13	22	49	12				54	85	95	37	12	26	25	6	1		1	40	50	57	6	2	19	54
53	36	7						0	0	3	11	14	40	12	13	12	11	12	69	173	53	11	1	2	2	2	2	2	6	35	75	48	50	112	77
24	2								0	1	3	24							13	97	6	5	2	1	0				18	41	58	238	199	236	117
3	3	2	1	1	1	0				0	0										1	2	4	4	3	1	2	2	3	4	5	1	16	50	36
	0	2	2	2	1	0						0			0							1	1	2	2	2	2	2	2	2	1				
					0				0		0			0		0							0	0											
									0																										
									0																				0						

Figure 3b. AIRCRAFT 1000 - 301 hPa mean daily count. APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Global average number of observations in 24 hours = 133426

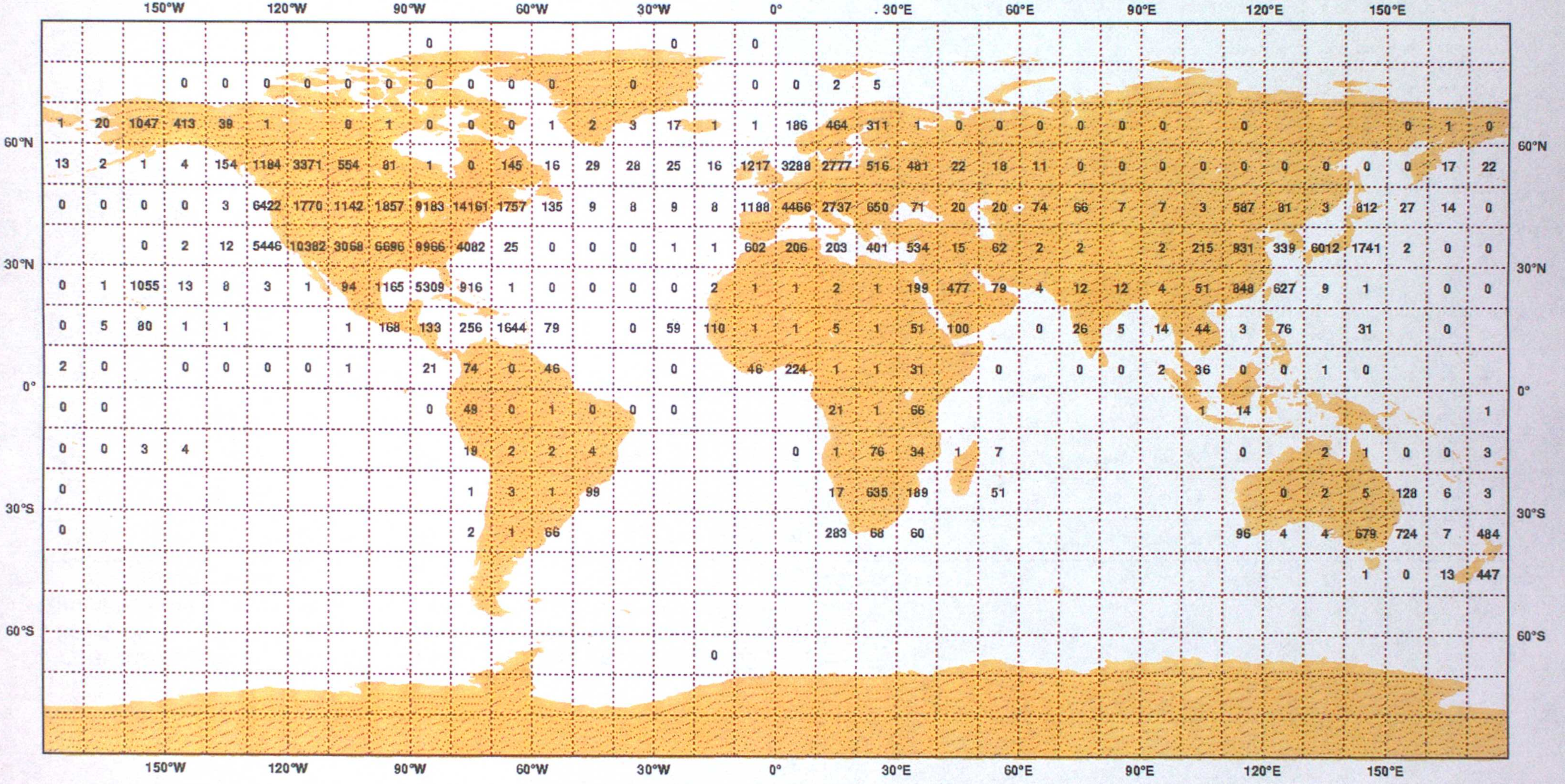

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 2 5
1 20 1047 413 38 1 0 1 0 0 0 1 2 3 17 1 1 186 464 311 1 0 0 0 0 0 0 0 0 1 0
13 2 1 4 154 1184 3371 554 81 1 0 145 16 29 28 25 16 1217 3288 2777 516 481 22 18 11 0 0 0 0 0 0 0 0 0 17 22
0 0 0 0 3 6422 1770 1142 1857 9183 14161 1757 135 9 8 9 8 1188 4466 2737 650 71 20 20 74 66 7 7 3 587 81 3 812 27 14 0
0 2 12 5446 10382 3068 6696 9966 4082 25 0 0 0 1 1 602 206 203 401 534 15 62 2 2 2 215 831 339 6012 1741 2 0 0
0 1 1055 13 8 3 1 94 1165 5309 916 1 0 0 0 0 2 1 1 2 1 199 477 79 4 12 12 4 51 848 627 9 1 0 0
0 5 80 1 1 1 168 133 256 1644 79 0 59 110 1 1 5 1 51 100 0 26 5 14 44 3 76 31 0
2 0 0 0 0 0 1 21 74 0 46 0 46 224 1 1 31 0 0 0 2 36 0 0 1 0
0 0 0 49 0 1 0 0 0 21 1 66 1 14 1
0 0 3 4 19 2 2 4 0 1 76 34 1 7 0 2 1 0 0 3
0 1 3 1 99 17 635 189 51 0 2 5 128 6 3
0 2 1 66 283 68 60 96 4 4 679 724 7 484
1 0 13 447
0

Figure 4a. AIRCRAFT 300 - 150 hPa mean winds. APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

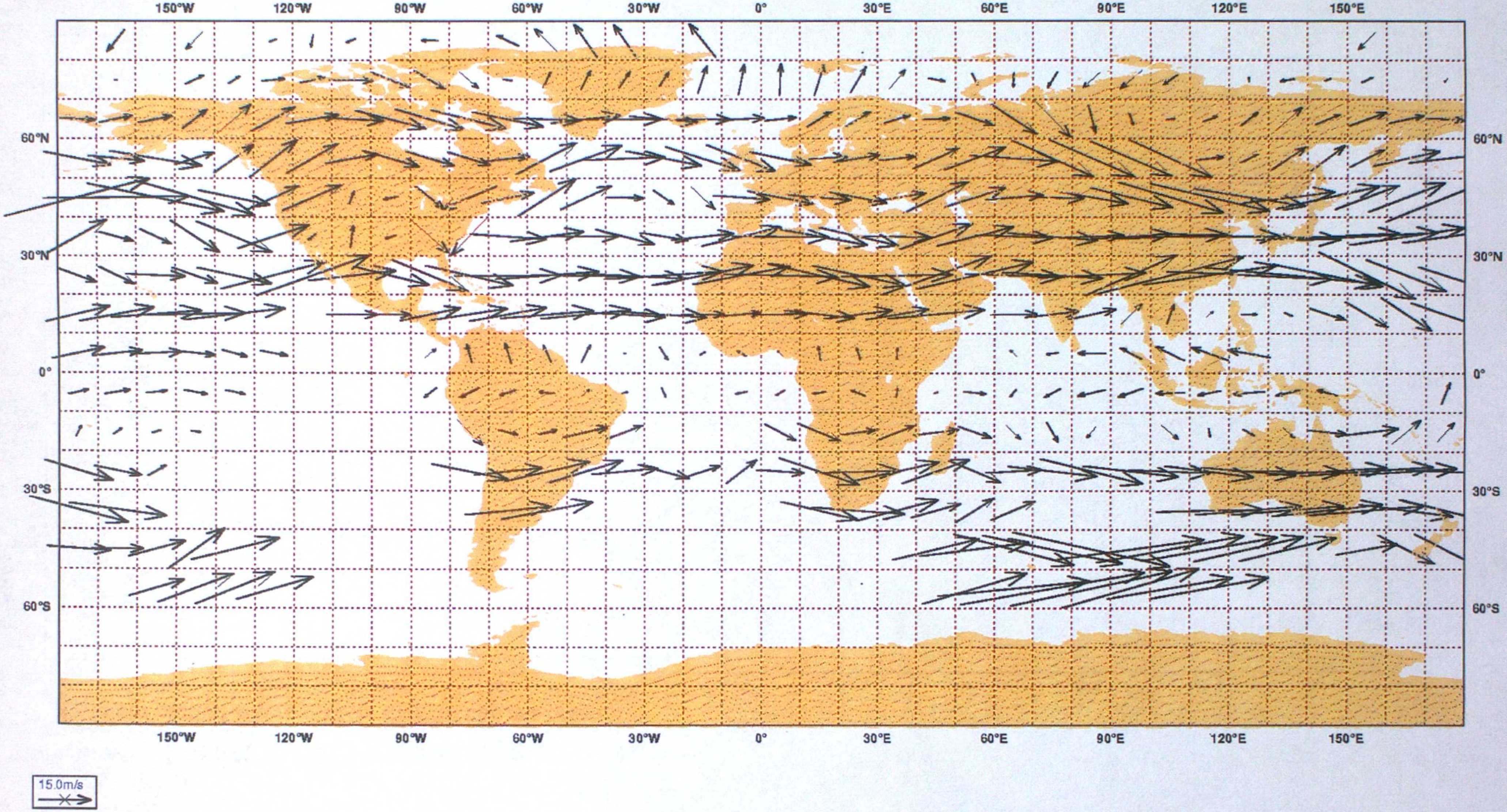

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 4b. AIRCRAFT 1000 - 301 hPa mean winds. APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

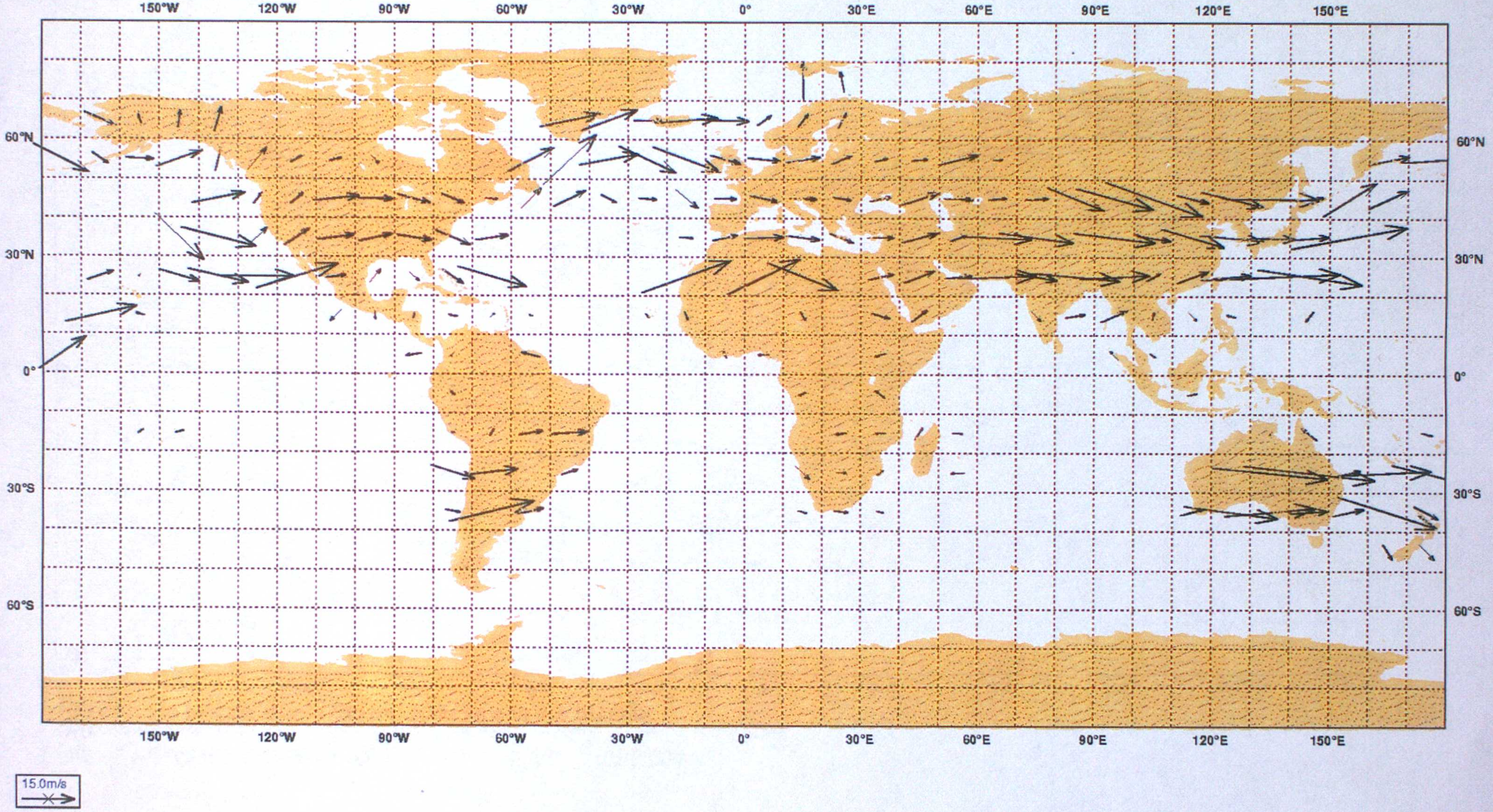

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5a. AIRCRAFT 300 - 150 hPa mean O-B winds. APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

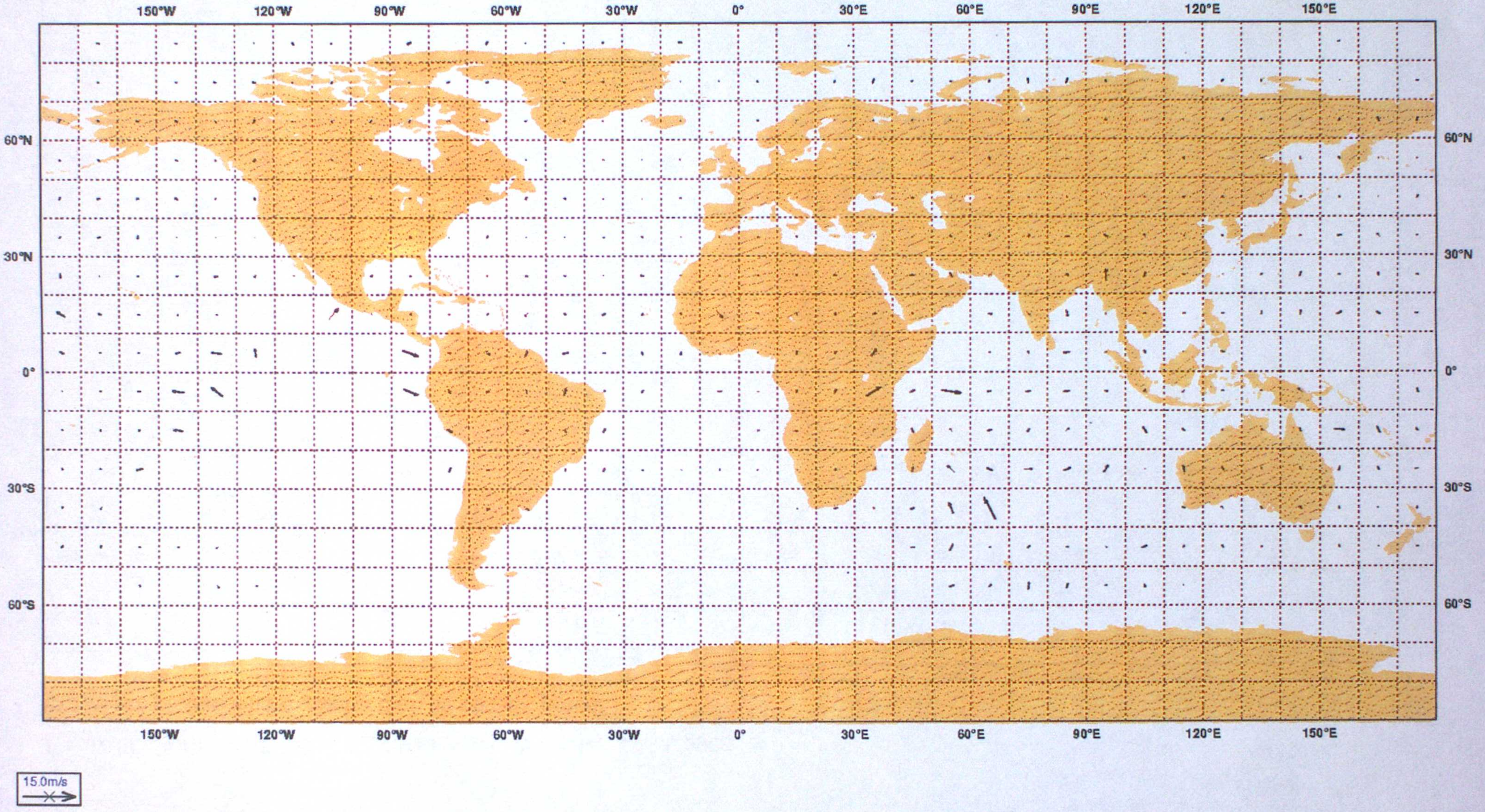

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 5b. AIRCRAFT 1000 - 301 hPa mean O-B winds. APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Arrows are plotted where greater than 30 obs are present

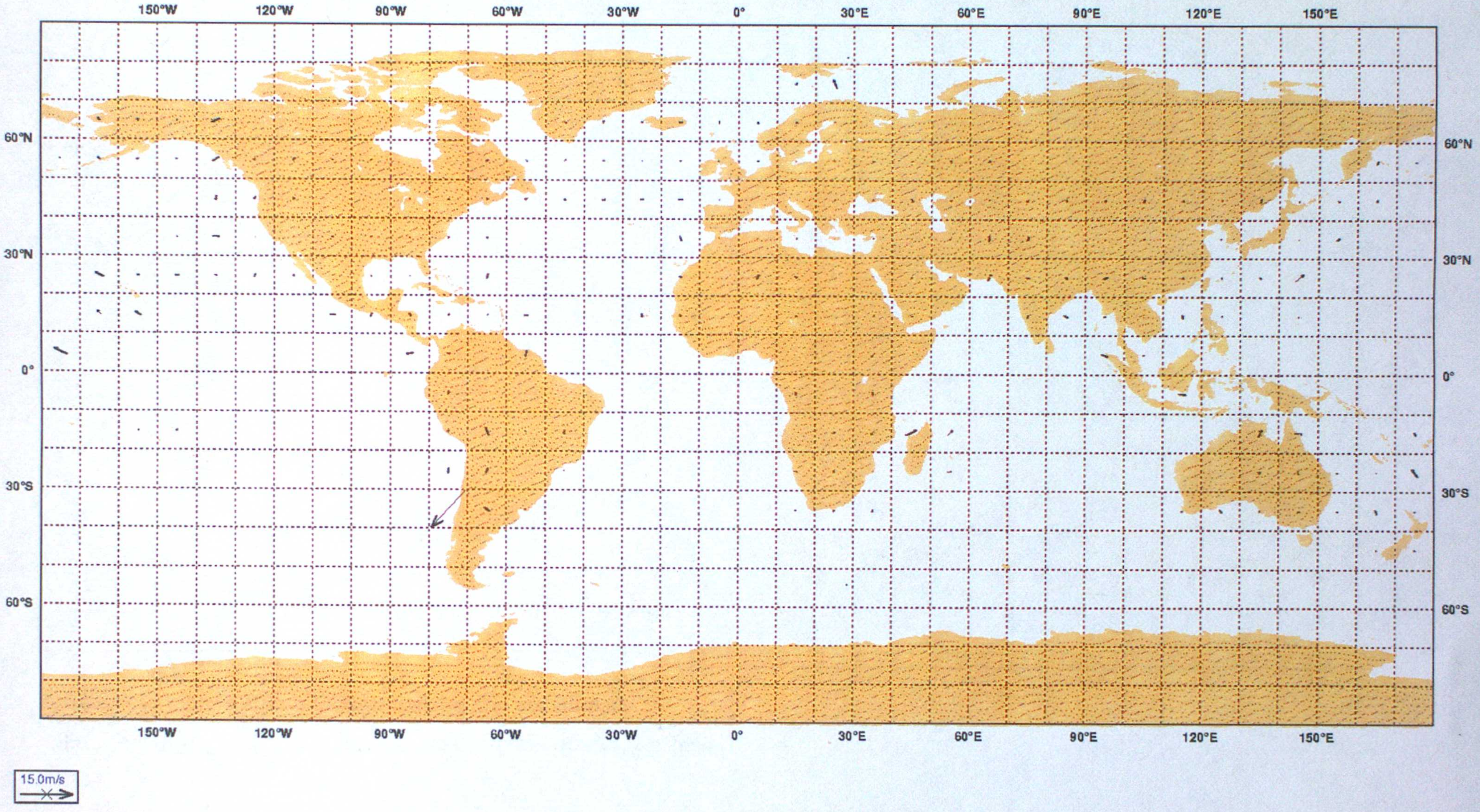

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 6a. AIRCRAFT 300 - 150 hPa mean O-B speeds (ms-1). APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

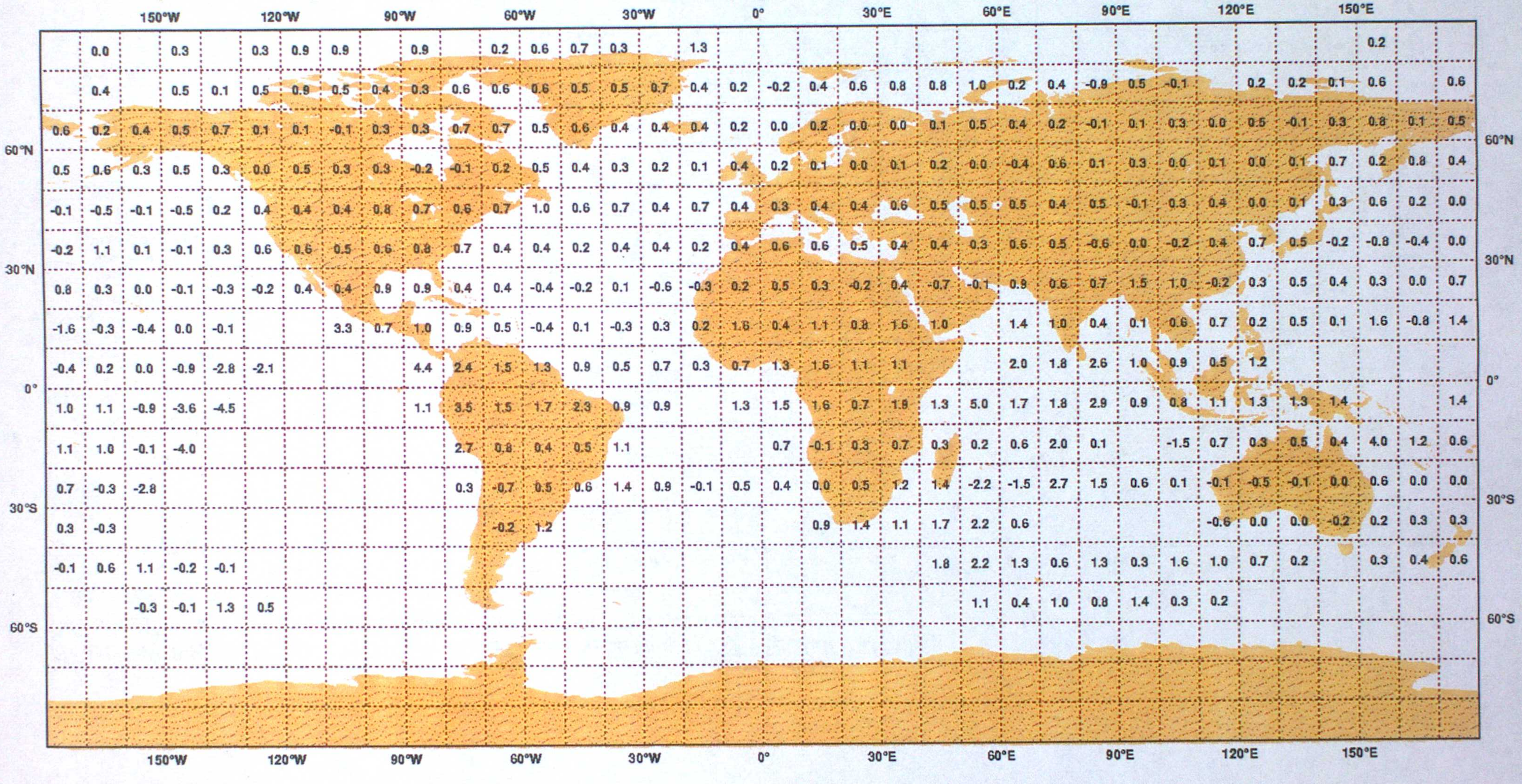

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 6b. AIRCRAFT 1000 - 301 hPa mean O-B speeds (ms-1). APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

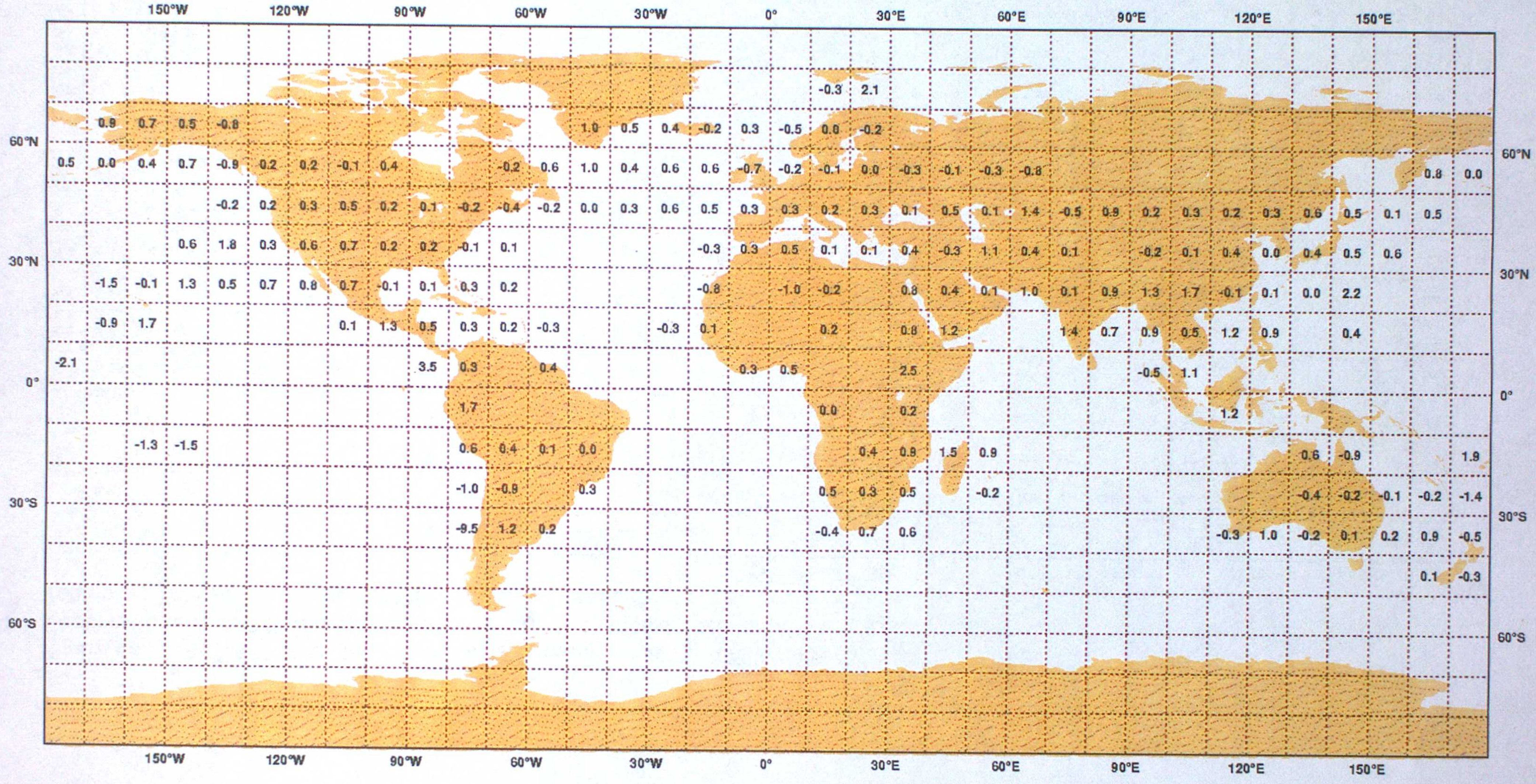
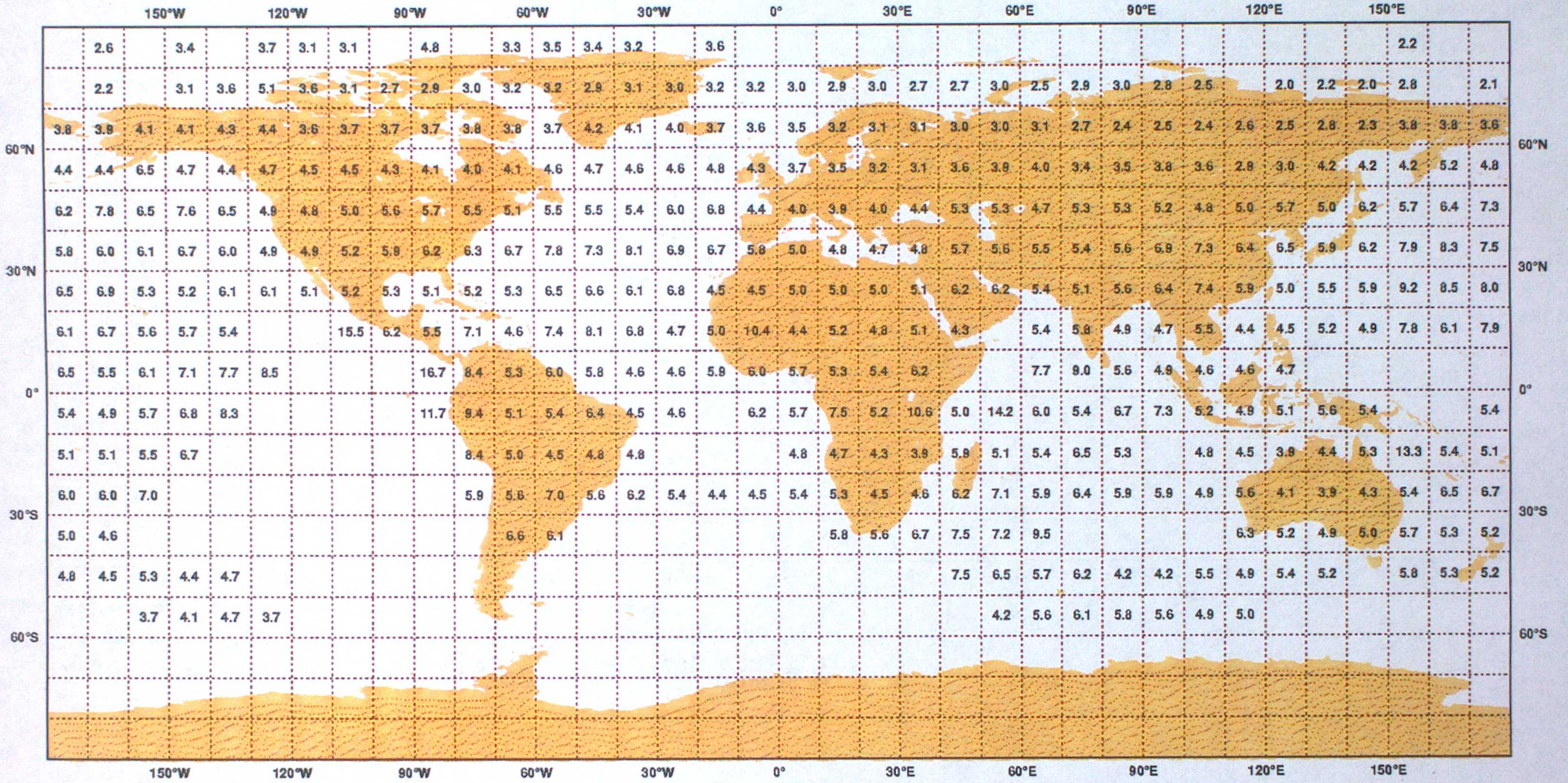

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N 30°N 0° 30°S 60°S
-0.3 2.1
0.9 0.7 0.5 -0.8 1.0 0.5 0.4 -0.2 0.3 -0.5 0.0 -0.2
0.5 0.0 0.4 0.7 -0.9 0.2 0.2 -0.1 0.4 -0.2 0.6 1.0 0.4 0.6 0.6 -0.7 -0.2 -0.1 0.0 -0.3 -0.1 -0.3 -0.8 0.8 0.0
-0.2 0.2 0.3 0.5 0.2 0.1 -0.2 -0.4 -0.2 0.0 0.3 0.6 0.5 0.3 0.3 0.2 0.3 0.1 0.5 0.1 1.4 -0.5 0.9 0.2 0.3 0.2 0.3 0.6 0.5 0.1 0.5
0.6 1.8 0.3 0.6 0.7 0.2 0.2 -0.1 0.1 -0.3 0.3 0.5 0.1 0.1 0.4 -0.3 1.1 0.4 0.1 -0.2 0.1 0.4 0.0 0.4 0.5 0.6
-1.5 -0.1 1.3 0.5 0.7 0.8 0.7 -0.1 0.1 0.3 0.2 -0.8 -1.0 -0.2 0.8 0.4 0.1 1.0 0.1 0.9 1.3 1.7 -0.1 0.1 0.0 2.2
-0.9 1.7 0.1 1.3 0.5 0.3 0.2 -0.3 -0.3 0.1 0.2 0.8 1.2 1.4 0.7 0.9 0.5 1.2 0.9 0.4
-2.1 3.5 0.3 0.4 0.3 0.5 2.5 -0.5 1.1
1.7 0.0 0.2 1.2
-1.3 -1.5 0.6 0.4 0.1 0.0 0.4 0.8 1.5 0.9 0.6 -0.9 1.9
-1.0 -0.9 0.3 0.5 0.3 0.5 -0.2 -0.4 -0.2 -0.1 -0.2 -1.4
-9.5 1.2 0.2 -0.4 0.7 0.6 -0.3 1.0 -0.2 0.1 0.2 0.9 -0.5
0.1 -0.3

Figure 7a. AIRCRAFT 300 - 150 hPa RMS O-B vector (ms-1). APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present



	2.6		3.4		3.7	3.1	3.1		4.8		3.3	3.5	3.4	3.2		3.6																	2.2		
	2.2		3.1	3.6	5.1	3.6	3.1	2.7	2.9	3.0	3.2	3.2	2.9	3.1	3.0	3.2	3.2	3.0	2.9	3.0	2.7	2.7	3.0	2.5	2.9	3.0	2.8	2.5		2.0	2.2	2.0	2.8		2.1
3.8	3.9	4.1	4.1	4.3	4.4	3.6	3.7	3.7	3.7	3.8	3.8	3.7	4.2	4.1	4.0	3.7	3.6	3.5	3.2	3.1	3.1	3.0	3.0	3.1	2.7	2.4	2.5	2.4	2.6	2.5	2.8	2.3	3.8	3.8	3.6
4.4	4.4	6.5	4.7	4.4	4.7	4.5	4.5	4.3	4.1	4.0	4.1	4.6	4.7	4.6	4.6	4.8	4.3	3.7	3.5	3.2	3.1	3.6	3.9	4.0	3.4	3.5	3.8	3.6	2.8	3.0	4.2	4.2	4.2	5.2	4.8
6.2	7.8	6.5	7.6	6.5	4.9	4.8	5.0	5.6	5.7	5.5	5.1	5.5	5.5	5.4	6.0	6.8	4.4	4.0	3.9	4.0	4.4	5.3	5.3	4.7	5.3	5.3	5.2	4.8	5.0	5.7	5.0	6.2	5.7	6.4	7.3
5.8	6.0	6.1	6.7	6.0	4.9	4.9	5.2	5.8	6.2	6.3	6.7	7.8	7.3	8.1	6.9	6.7	5.8	5.0	4.8	4.7	4.8	5.7	5.6	5.5	5.4	5.6	6.9	7.3	6.4	6.5	5.9	6.2	7.9	8.3	7.5
6.5	6.9	5.3	5.2	6.1	6.1	5.1	5.2	5.3	5.1	5.2	5.3	6.5	6.6	6.1	6.8	4.5	4.5	5.0	5.0	5.0	5.1	6.2	6.2	5.4	5.1	5.6	6.4	7.4	5.9	5.0	5.5	5.9	9.2	8.5	8.0
6.1	6.7	5.6	5.7	5.4			15.5	6.2	5.5	7.1	4.6	7.4	8.1	6.8	4.7	5.0	10.4	4.4	5.2	4.8	5.1	4.3		5.4	5.8	4.9	4.7	5.5	4.4	4.5	5.2	4.9	7.8	6.1	7.9
6.5	5.5	6.1	7.1	7.7	8.5				16.7	8.4	5.3	6.0	5.8	4.6	4.6	5.9	6.0	5.7	5.3	5.4	6.2			7.7	9.0	5.6	4.9	4.6	4.6	4.7					
5.4	4.9	5.7	6.8	8.3					11.7	9.4	5.1	5.4	6.4	4.5	4.6		6.2	5.7	7.5	5.2	10.6	5.0	14.2	6.0	5.4	6.7	7.3	5.2	4.9	5.1	5.6	5.4			5.4
5.1	5.1	5.5	6.7							8.4	5.0	4.5	4.8	4.8				4.8	4.7	4.3	3.9	5.9	5.1	5.4	6.5	5.3		4.8	4.5	3.9	4.4	5.3	13.3	5.4	5.1
6.0	6.0	7.0								5.9	5.6	7.0	5.6	6.2	5.4	4.4	4.5	5.4	5.3	4.5	4.6	6.2	7.1	5.9	6.4	5.9	5.9	4.9	5.6	4.1	3.9	4.3	5.4	6.5	6.7
5.0	4.6										6.6	6.1							5.8	5.6	6.7	7.5	7.2	9.5					6.3	5.2	4.9	5.0	5.7	5.3	5.2
4.8	4.5	5.3	4.4	4.7																		7.5	6.5	5.7	6.2	4.2	4.2	5.5	4.9	5.4	5.2		5.8	5.3	5.2
		3.7	4.1	4.7	3.7																		4.2	5.6	6.1	5.8	5.6	4.9	5.0						

Figure 7b. AIRCRAFT 1000 - 301 hPa RMS O-B vector (ms-1). APRIL 2006
Observations with O-B vector difference greater than 60 ms-1 excluded
Values are printed where greater than 30 obs are present

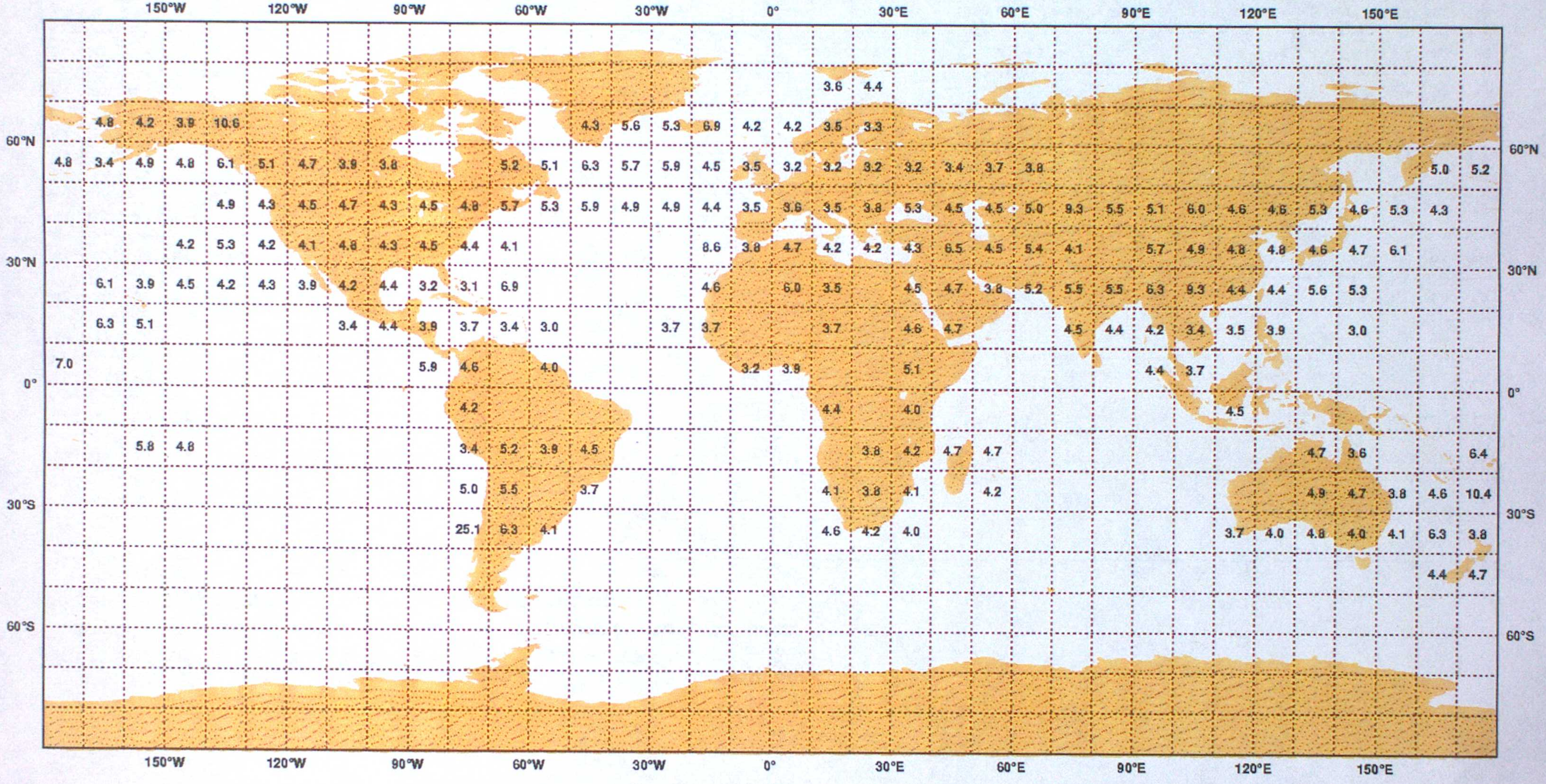

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
3.6 4.4
4.8 4.2 3.9 10.6 4.3 5.6 5.3 6.9 4.2 4.2 3.5 3.3
4.8 3.4 4.9 4.8 6.1 5.1 4.7 3.9 3.8 5.2 5.1 6.3 5.7 5.9 4.5 3.5 3.2 3.2 3.2 3.2 3.4 3.7 3.8 5.0 5.2
4.9 4.3 4.5 4.7 4.3 4.5 4.8 5.7 5.3 5.9 4.9 4.9 4.4 3.5 3.6 3.5 3.8 5.3 4.5 4.5 5.0 9.3 5.5 5.1 6.0 4.6 4.6 5.3 4.6 5.3 4.3
4.2 5.3 4.2 4.1 4.8 4.3 4.5 4.4 4.1 8.6 3.8 4.7 4.2 4.2 4.3 6.5 4.5 5.4 4.1 5.7 4.9 4.8 4.8 4.6 4.7 6.1
6.1 3.9 4.5 4.2 4.3 3.9 4.2 4.4 3.2 3.1 6.9 4.6 6.0 3.5 4.5 4.7 3.8 5.2 5.5 5.5 6.3 9.3 4.4 4.4 5.6 5.3
6.3 5.1 3.4 4.4 3.9 3.7 3.4 3.0 3.7 3.7 3.7 4.6 4.7 4.5 4.4 4.2 3.4 3.5 3.9 3.0
7.0 5.9 4.6 4.0 3.2 3.9 5.1 4.4 3.7
4.2 4.4 4.0 4.5
5.8 4.8 3.4 5.2 3.8 4.5 3.8 4.2 4.7 4.7 4.7 3.6 6.4
5.0 5.5 3.7 4.1 3.8 4.1 4.2 4.9 4.7 3.8 4.6 10.4
25.1 6.3 4.1 4.6 4.2 4.0 3.7 4.0 4.8 4.0 4.1 6.3 3.8
4.4 4.7

TABLE 5

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

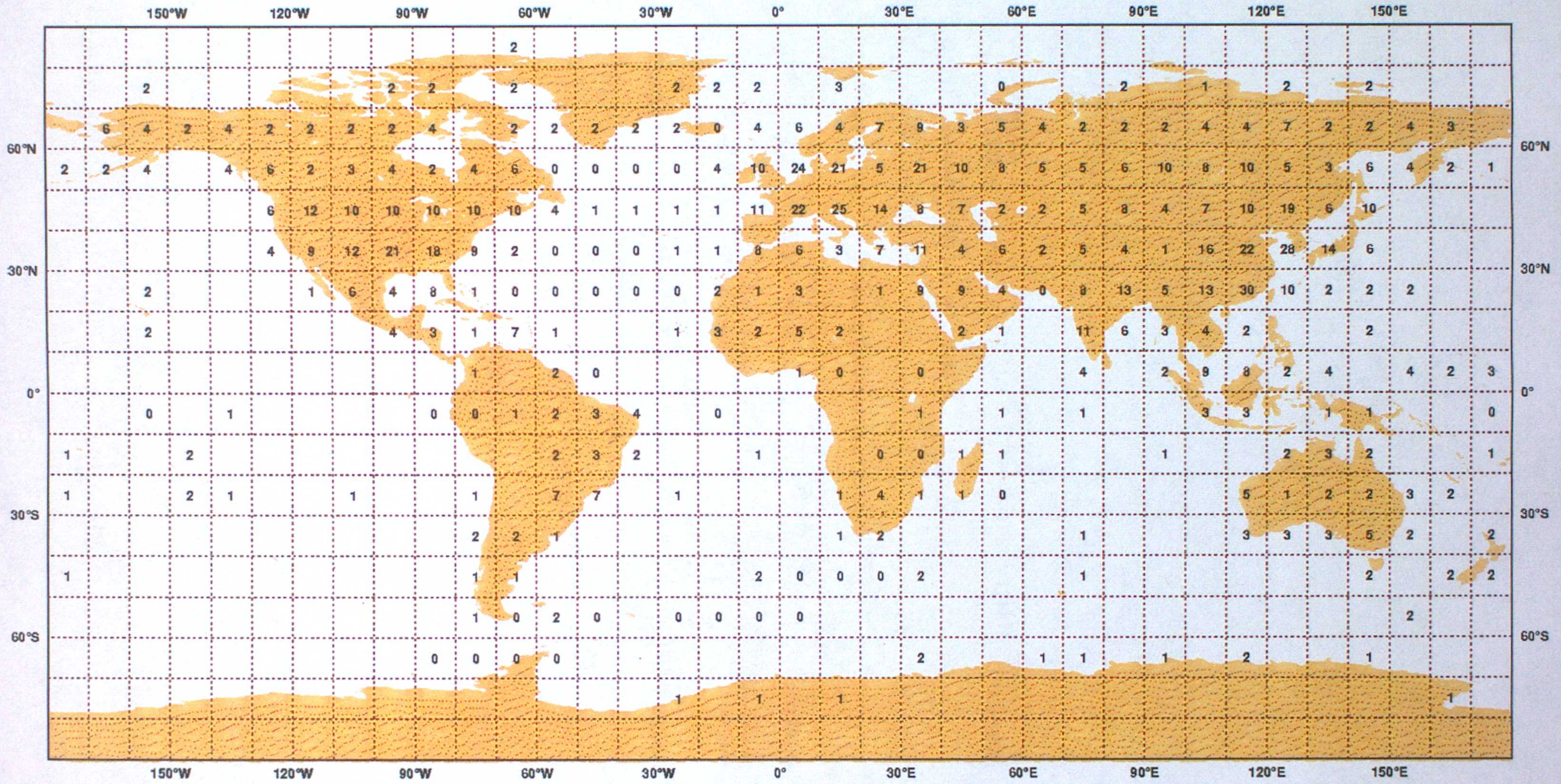
Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 30.0 hPa
Element monitored		:GEOPOTENTIAL HEIGHT IN metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.1	
SELECTION CRITERIA	: ≥3 levels with ≥10 observations and ≥ 100 m weighted RMS.	

ONLY THE WORST LEVEL IS SHOWN WITH UNWEIGHTED RMS

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	SD	BIAS	RMS	NUM LEVELS
23418	12	Z	250	65/ 57	29	0	62.1	69.0	92.8	4
31168	00	Z	70	56/ 138	10	0	78.8	240.4	253.0	5
34731	12	Z	100	47/ 40	11	0	47.7	150.8	158.2	6
37018	12	Z	1000	44/ 39	24	3	20.0	-67.7	70.6	4
42027	00	Z	200	34/ 75	13	0	41.1	-108.7	116.2	4
42182	00	Z	250	29/ 77	24	1	84.6	-72.1	111.1	8
42182	12	Z	50	29/ 77	17	2	90.3	156.1	180.3	9
42314	00	Z	150	27/ 95	16	0	145.3	-27.7	147.9	7
42339	00	Z	250	26/ 73	15	2	29.6	-136.7	139.8	8
42361	00	Z	250	26/ 78	15	0	104.4	-27.8	108.0	4
42361	12	Z	200	26/ 78	11	1	130.8	-76.7	151.6	6
42369	00	Z	1000	27/ 81	11	16	18.2	-76.5	78.7	9
42369	12	Z	1000	27/ 81	4	16	13.7	-73.8	75.0	8
42379	00	Z	1000	27/ 83	13	0	13.2	-47.7	49.5	4
42397	00	Z	250	27/ 88	26	2	53.7	-107.8	120.4	7
42410	00	Z	200	26/ 92	24	0	75.1	-133.7	153.3	9
42410	12	Z	200	26/ 92	19	2	46.1	-161.2	167.7	9
42492	00	Z	100	26/ 85	12	1	119.5	-64.2	135.7	5
42492	12	Z	150	26/ 85	11	1	82.4	-94.4	125.3	5
42647	00	Z	50	23/ 73	12	1	115.5	227.1	254.8	7
42647	12	Z	50	23/ 73	7	6	93.3	288.9	303.6	8
42667	12	Z	150	23/ 77	9	1	96.2	66.2	116.8	5
42701	00	Z	200	23/ 85	26	0	77.2	-81.5	112.2	9
42701	12	Z	50	23/ 85	17	0	116.9	125.3	171.3	6
42724	00	Z	200	24/ 91	27	0	49.4	-84.7	98.1	7
42724	12	Z	200	24/ 91	15	1	65.1	-144.6	158.6	6
42809	00	Z	30	23/ 88	15	0	172.9	183.9	252.4	8
42809	12	Z	100	23/ 88	19	0	93.0	-147.5	174.3	9
42867	00	Z	200	21/ 79	22	0	62.7	-115.4	131.4	9
42867	12	Z	200	21/ 79	12	0	31.5	-98.2	103.1	6
42971	12	Z	100	20/ 86	15	0	82.2	-160.6	180.4	5
43003	00	Z	200	19/ 73	18	1	75.1	-173.7	189.2	10
43003	12	Z	1000	19/ 73	25	0	6.8	-44.6	45.1	9
43128	00	Z	250	17/ 78	21	0	67.4	-111.5	130.3	10
43150	00	Z	100	18/ 83	25	0	111.5	-131.8	172.6	10
43150	12	Z	200	18/ 83	24	2	42.3	-86.3	96.0	9
43279	00	Z	150	13/ 80	22	0	95.2	-95.3	134.7	6
43279	12	Z	200	13/ 80	25	0	88.3	-27.2	92.4	6
43333	00	Z	100	12/ 93	17	0	119.5	-126.5	174.0	8
43333	12	Z	100	12/ 93	15	2	100.5	-165.7	193.8	5
43346	00	Z	100	11/ 80	11	2	74.9	-144.4	162.6	5
43353	00	Z	1000	10/ 76	9	18	4.7	-91.4	91.6	6
43369	00	Z	200	8/ 73	25	1	54.1	-151.1	160.5	9
43371	00	Z	150	8/ 77	22	3	94.4	-129.3	160.0	9
43371	12	Z	30	8/ 77	8	2	133.4	190.7	232.8	7
96163	00	Z	500	-1/ 100	13	2	76.5	-4.3	76.6	11
96163	12	Z	1000	-1/ 100	1	10	0.0	-49.0	49.0	10
97014	12	Z	250	2/ 125	23	1	83.1	9.7	83.7	4
97180	00	Z	1000	-5/ 120	27	2	8.3	-58.5	59.1	12
97180	12	Z	1000	-5/ 120	25	1	6.9	-66.8	67.2	4
97372	00	Z	50	-10/ 124	14	0	81.4	130.7	154.0	4
97560	00	Z	300	-1/ 136	19	2	44.9	-92.3	102.6	9
97560	12	Z	500	-1/ 136	11	4	35.0	-67.4	75.9	9

Figure 8. TEMP 500 hPa geopotential mean daily count. APRIL 2006
All hours
Global average number of observations in 24 hours = 1186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60°N
30°N
0°
30°S
60°S
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6 4 2 4 2 2 2 2 4 2 2 2 2 2 0 4 6 4 7 9 3 5 4 2 2 2 4 4 7 2 2 4 3
2 2 4 4 6 2 3 4 2 4 6 0 0 0 0 4 10 24 21 5 21 10 8 5 5 6 10 8 10 5 3 6 4 2 1
6 12 10 10 10 10 10 4 1 1 1 1 11 22 25 14 8 7 2 2 5 8 4 7 10 19 6 10
4 9 12 21 18 9 2 0 0 0 1 1 8 6 3 7 11 4 6 2 5 4 1 16 22 28 14 6
2 1 6 4 8 1 0 0 0 0 0 2 1 3 1 9 9 4 0 9 13 5 13 30 10 2 2 2
2 4 3 1 7 1 1 3 2 5 2 2 1 11 6 3 4 2 2
1 2 0 1 0 0 4 2 9 8 2 4 4 2 3
0 1 0 0 1 2 3 4 0 1 1 1 3 3 1 1 0
1 2 2 3 2 1 0 0 1 1 1 2 3 2 1
1 2 1 1 1 7 7 1 1 4 1 1 0 5 1 2 2 3 2
2 2 1 1 2 1 3 3 3 5 2 2
1 1 1 2 0 0 0 2 1 2 2 2
1 0 2 0 0 0 0 0 2
0 0 0 0 2 1 1 1 2 1
1 1 1 1

TABLE 6

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

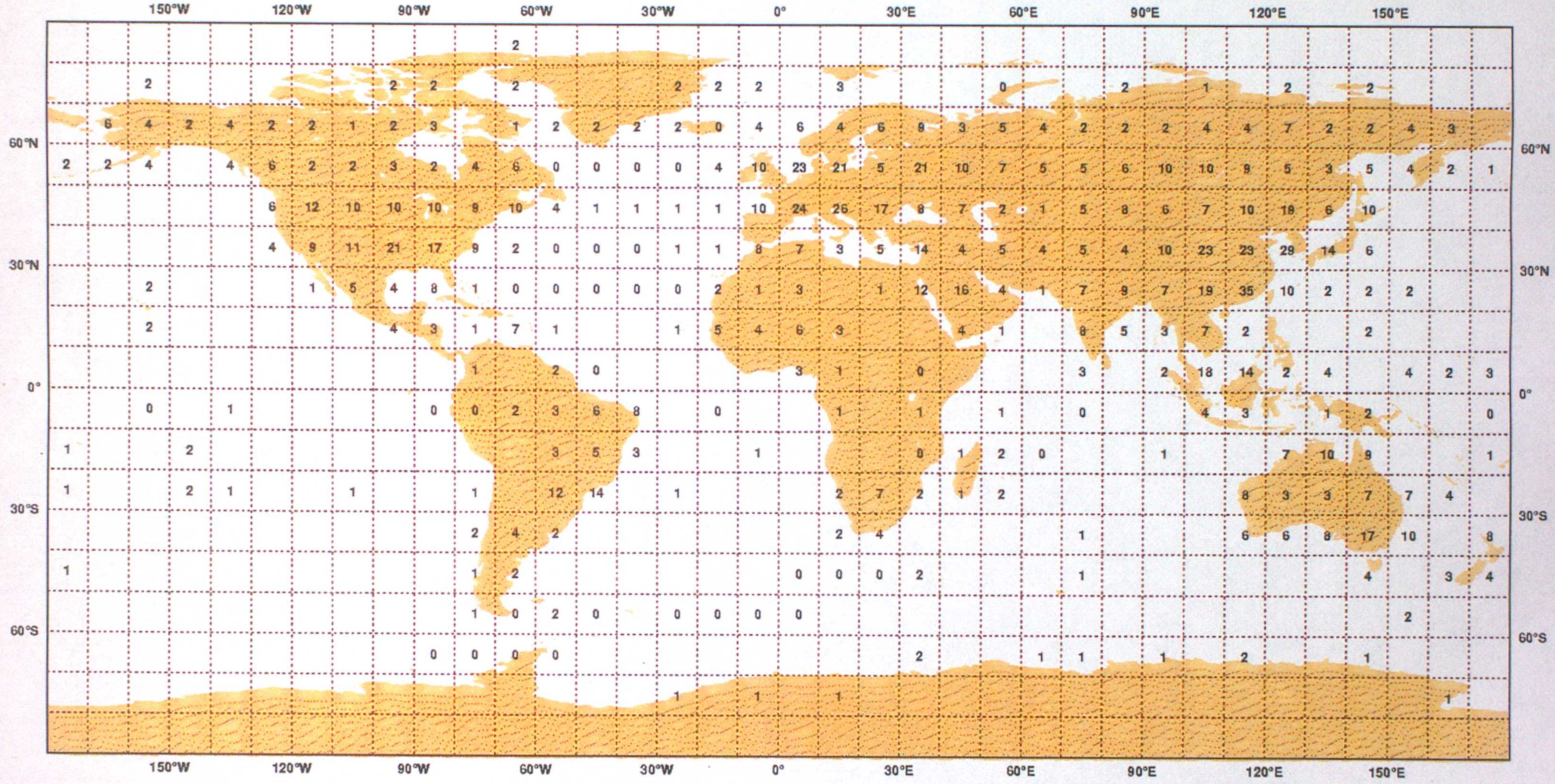
Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 1000.0 - 100.0 hPa
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored		
	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:% REJ	:Percentage of observations rejected by quality control at level shown during period excluding those with gross errors.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
	:NUM LEVELS	:Number of levels satisfying selection criteria.
GROSS ERROR LIMITS	:Defined in Appendix I.2	
SELECTION CRITERIA	: ≥ 10 observations and ≥ 15 m s^{-1} RMS vector wind.	

ONLY THE STANDARD LEVEL BETWEEN 1000 - 100 hPa WITH HIGHEST RMS IS SHOWN

WMO IDENT	OBS TIME	ELM	LEV	LAT/LONG	NUM OBS	NUM GROSS	% REJ	UBIAS	VBIAS	RMS	LEVELS
42182	00	V	250	29/ 77	25	0	100	-4.1	-8.5	17.5	2
42182	12	V	250	29/ 77	27	0	96	-2.5	-9.1	18.0	1
42397	00	V	500	27/ 88	16	0	12	2.0	1.4	17.0	1
42809	12	V	100	23/ 88	19	0	100	-13.1	-2.0	17.1	1
42867	12	V	250	21/ 79	11	0	9	3.2	3.9	15.5	1
43346	12	V	150	11/ 80	12	0	100	6.9	-5.2	16.5	1
60590	12	V	400	31/ 3	11	0	100	-11.7	4.5	17.5	1
62337	00	V	150	31/ 34	13	0	100	-10.5	3.2	32.0	1
62414	00	V	150	24/ 33	25	0	100	-6.3	4.7	16.6	2
68461	12	V	300	-28/ 28	9	1	100	9.8	5.0	22.5	2
71913	12	V	300	59/ -94	28	0	14	-4.0	1.6	16.0	2
78073	12	V	400	25/ -77	17	0	23	-6.8	-0.9	20.6	3
89009	00	V	400	-90/ 0	25	0	100	-2.5	-13.7	19.1	3

Figure 9. TEMP/PILOT 300 hPa wind mean daily count. APRIL 2006
All hours
Global average number of observations in 24 hours = 1362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60°N 30°N 0° 30°S 60°S
2
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6 4 2 4 2 2 1 2 3 1 2 2 2 2 0 4 6 4 6 9 3 5 4 2 2 2 4 4 7 2 2 4 3
2 2 4 4 6 2 2 3 2 4 6 0 0 0 0 4 10 23 21 5 21 10 7 5 5 6 10 10 9 5 3 5 4 2 1
6 12 10 10 10 9 10 4 1 1 1 1 10 24 26 17 8 7 2 1 5 8 6 7 10 19 6 10
4 9 11 21 17 9 2 0 0 0 1 1 8 7 3 5 14 4 5 4 5 4 10 23 23 29 14 6
2 1 5 4 8 1 0 0 0 0 0 2 1 3 1 12 16 4 1 7 9 7 19 35 10 2 2 2
2 4 3 1 7 1 1 5 4 6 3 4 1 8 5 3 7 2 2
1 2 0 3 1 0 3 2 18 14 2 4 4 2 3
0 1 0 0 2 3 6 8 0 1 1 1 0 4 3 1 2 0
1 2 3 5 3 1 0 1 2 0 1 7 10 9 1
1 2 1 1 1 12 14 1 2 7 2 1 2 8 3 3 7 7 4
2 4 2 2 4 1 6 6 8 17 10 8
1 1 2 0 0 0 2 1 4 3 4
1 0 2 0 0 0 0 0 2
0 0 0 0 2 1 1 1 2 1
1 1 1 1

TABLE 7

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for radiosonde TEMPs.
Area monitored		:90°N - 90°S, 180°W - 180°E.
Standard of comparison		:Background field from UKMO global model.
Observation times		:00 UTC and 12 UTC.
Level(s) monitored		:Standard levels between 500.0 - 150.0 hPa
Element monitored		:WIND DIRECTION in degrees
Parameters monitored		
	:NUM OBS	:Average number of observations at all levels.
	:BIAS	:Mean difference of observations from background values from all levels.
	:MAX SPREAD	:(For observation - background values) Maximum absolute difference of SD at any level from SD at all levels
	:SD	:SD of difference of observations from background values at all levels.

SELECTION CRITERIA

:NUM OBS ≥ 5, and
ABSOLUTE BIAS ≥ 10°, with
SD < 30°, and
MAX SPREAD < 10°

WMO IDENT	OBS TIME	ELM	LAT/LONG	NUM OBS	BIAS	MAX SPREAD	SD
08594	12	DD	17/ -23	23	11.4	5.0	9.4
33791	12	DD	48/ 33	24	-14.8	5.0	11.3
42027	00	DD	34/ 75	7	-27.0	8.9	17.4
42182	12	DD	29/ 77	26	18.1	8.9	13.1
43150	12	DD	18/ 83	22	-11.2	5.1	17.3
43295	12	DD	13/ 78	15	-16.3	4.1	23.9
59758	12	DD	20/ 110	27	10.4	4.4	10.8
62306	00	DD	31/ 27	21	13.5	7.5	13.0
97014	00	DD	2/ 125	18	10.1	7.6	15.9

MONITORING OF SATELLITE WINDS

MONITORING CENTRE: EXETER

MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from GOES-9, GOES-10, GOES-12, METEOSAT-5, METEOSAT-7

Standard of comparison :Background field from UKMO global model.

Selection Criteria :number of observations > 10.

Data Extracted :Layer 701 - 1000 hPa
401 - 700 hPa
101 - 400 hPa

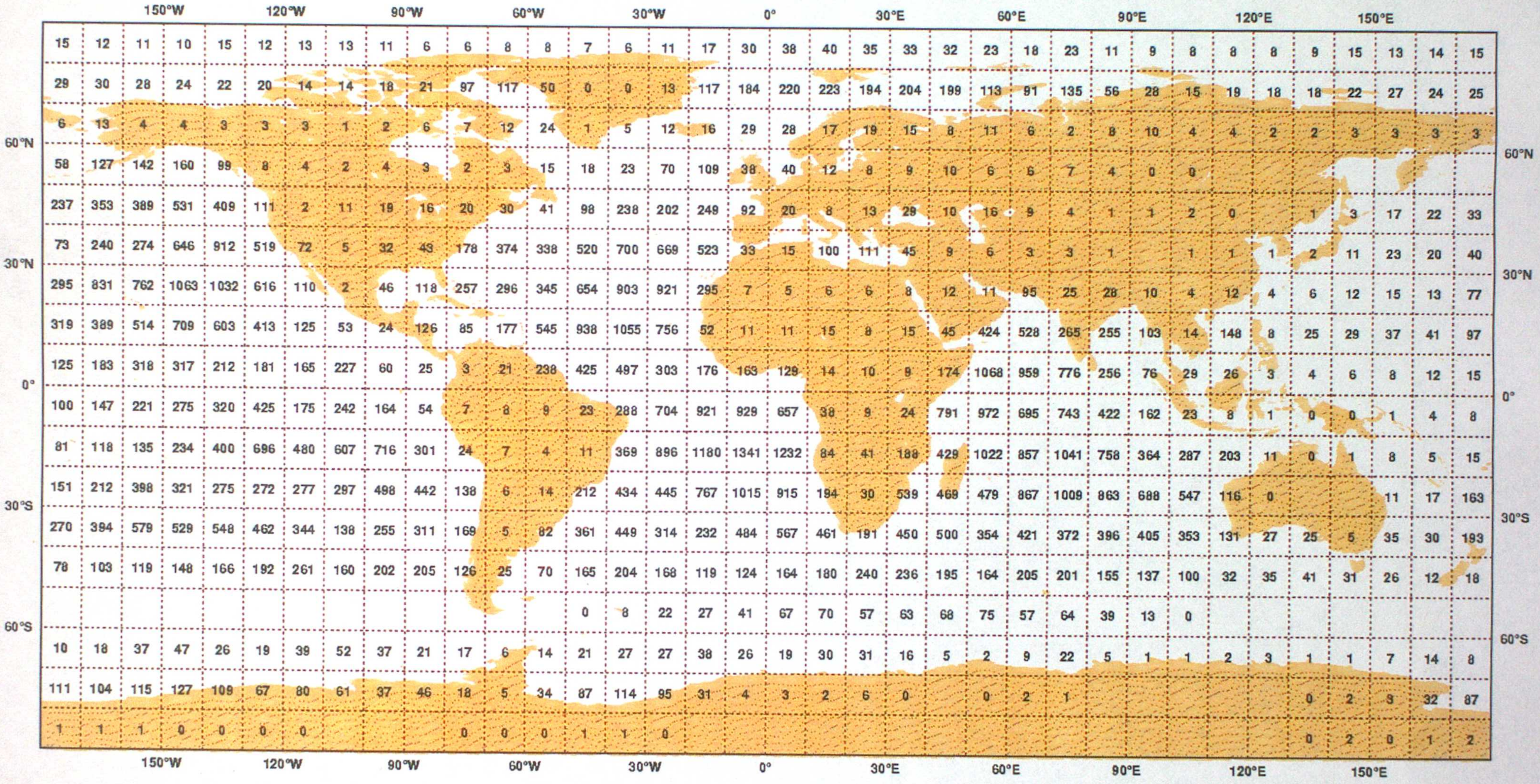
:Mean wind

:Mean observation minus background vector wind differences

:Mean observation minus background speed differences

:RMS of observation minus background vector differences

Figure 10. SATOB 701 - 1000 hPa mean daily count. APRIL 2006
Global average number of observations in 24 hours = 94304

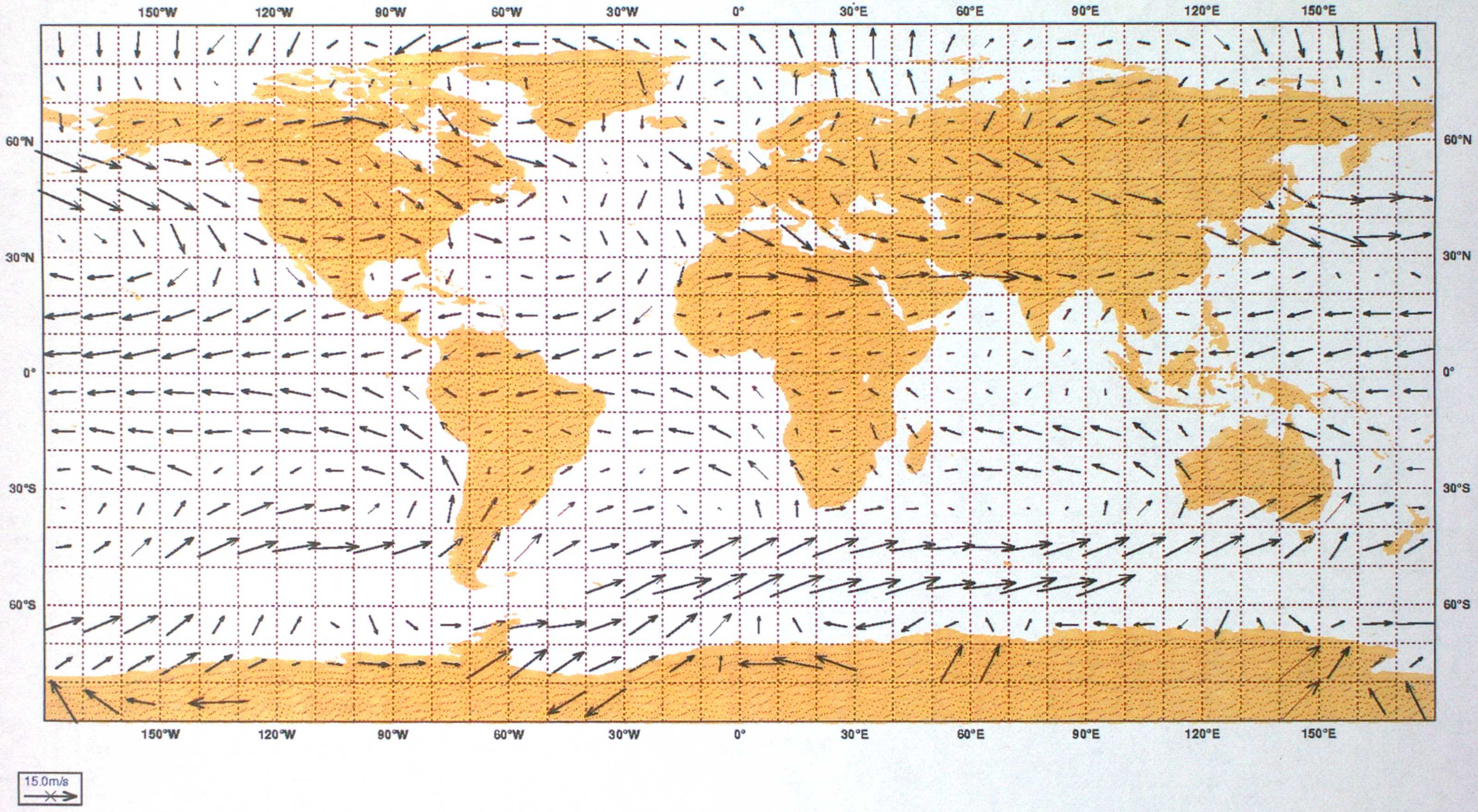


15	12	11	10	15	12	13	13	11	6	6	8	8	7	6	11	17	30	38	40	35	33	32	23	18	23	11	9	8	8	8	9	15	13	14	15
29	30	28	24	22	20	14	14	18	21	97	117	50	0	0	13	117	184	220	223	194	204	199	113	91	135	56	28	15	19	18	18	22	27	24	25
6	13	4	4	3	3	3	1	2	6	7	12	24	1	5	12	16	29	28	17	19	15	8	11	6	2	8	10	4	4	2	2	3	3	3	3
58	127	142	160	99	8	4	2	4	3	2	3	15	18	23	70	109	38	40	12	8	9	10	6	6	7	4	0	0							
237	353	389	531	409	111	2	11	19	16	20	30	41	98	238	202	249	92	20	8	13	29	10	16	9	4	1	1	2	0		1	3	17	22	33
73	240	274	646	912	519	72	5	32	43	178	374	338	520	700	669	523	33	15	100	111	45	9	6	3	3	1		1	1	1	2	11	23	20	40
295	831	762	1063	1032	616	110	2	46	118	257	296	345	654	903	921	295	7	5	6	6	8	12	11	95	25	28	10	4	12	4	6	12	15	13	77
319	389	514	709	603	413	125	53	24	126	85	177	545	938	1055	756	52	11	11	15	8	15	45	424	528	265	255	103	14	148	8	25	29	37	41	97
125	183	318	317	212	181	165	227	60	25	3	21	238	425	497	303	176	163	129	14	10	9	174	1068	959	776	256	76	29	26	3	4	6	8	12	15
100	147	221	275	320	425	175	242	164	54	7	8	9	23	288	704	921	929	657	38	9	24	791	972	695	743	422	162	23	8	1	0	0	1	4	8
81	118	135	234	400	696	480	607	716	301	24	7	4	11	369	896	1180	1341	1232	84	41	188	429	1022	857	1041	758	364	287	203	11	0	1	8	5	15
151	212	398	321	275	272	277	297	498	442	138	6	14	212	434	445	767	1015	915	194	30	539	469	479	867	1009	863	688	547	116	0			11	17	163
270	394	579	529	548	462	344	138	255	311	169	5	82	361	449	314	232	484	567	461	191	450	500	354	421	372	396	405	353	131	27	25	5	35	30	193
78	103	119	148	166	192	261	160	202	205	126	25	70	165	204	168	119	124	164	180	240	236	195	164	205	201	155	137	100	32	35	41	31	26	12	18
													0	8	22	27	41	67	70	57	63	68	75	57	64	39	13	0							
10	18	37	47	26	19	39	52	37	21	17	6	14	21	27	27	38	26	19	30	31	16	5	2	9	22	5	1	1	2	3	1	1	7	14	8
111	104	115	127	109	67	80	61	37	46	18	5	34	87	114	95	31	4	3	2	6	0		0	2	1						0	2	3	32	87
1	1	1	0	0	0	0				0	0	0	1	1	0																0	2	0	1	2

Figure 11. SATOB 701 - 1000 hPa vector mean wind. APRIL 2006

All observations

Arrows are plotted where greater than 10 obs are present



150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 12. SATOB 701 - 1000 hPa mean vector wind differences. APRIL 2006
All observations
Arrows are plotted where greater than 10 obs are present

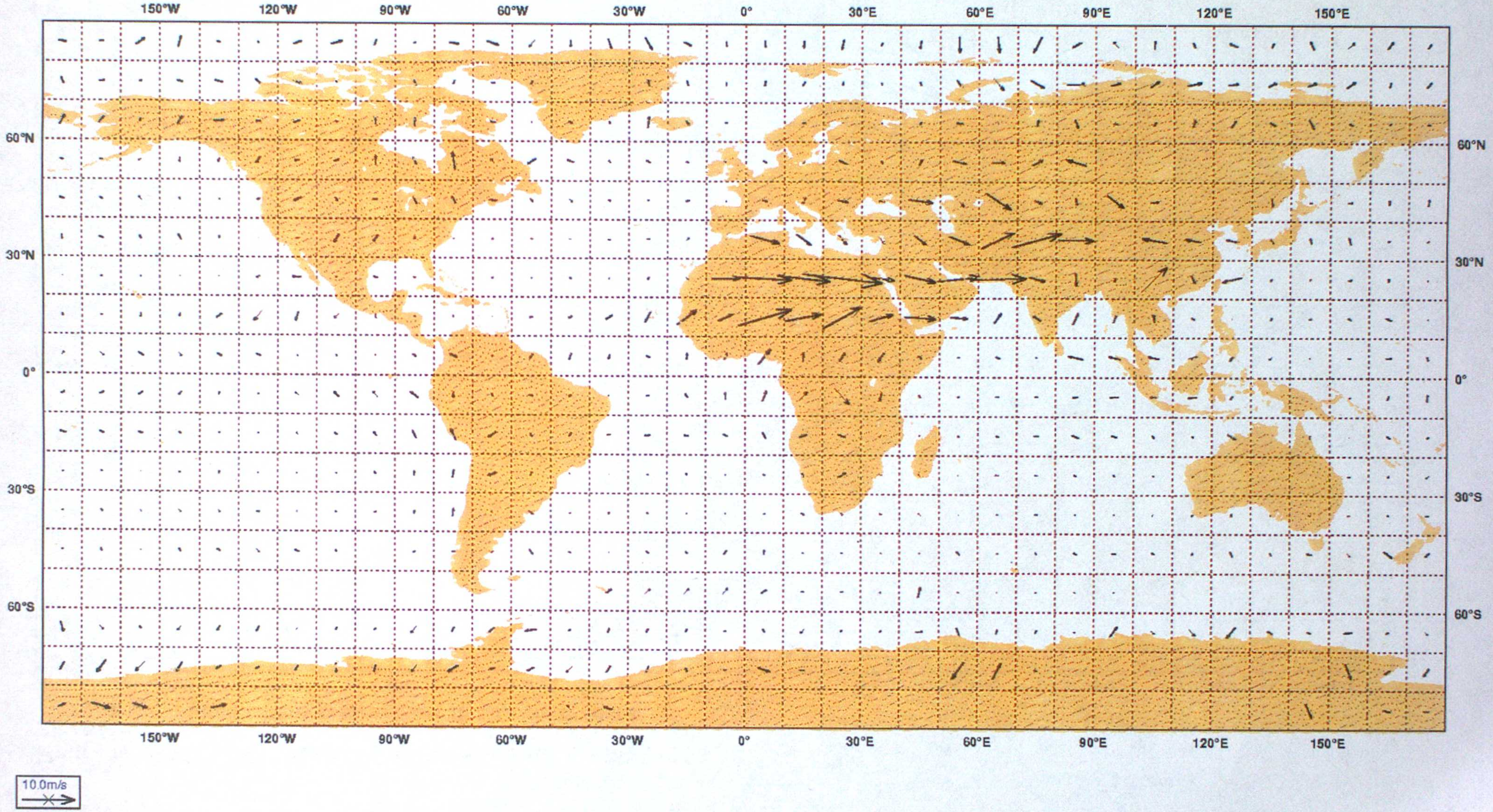
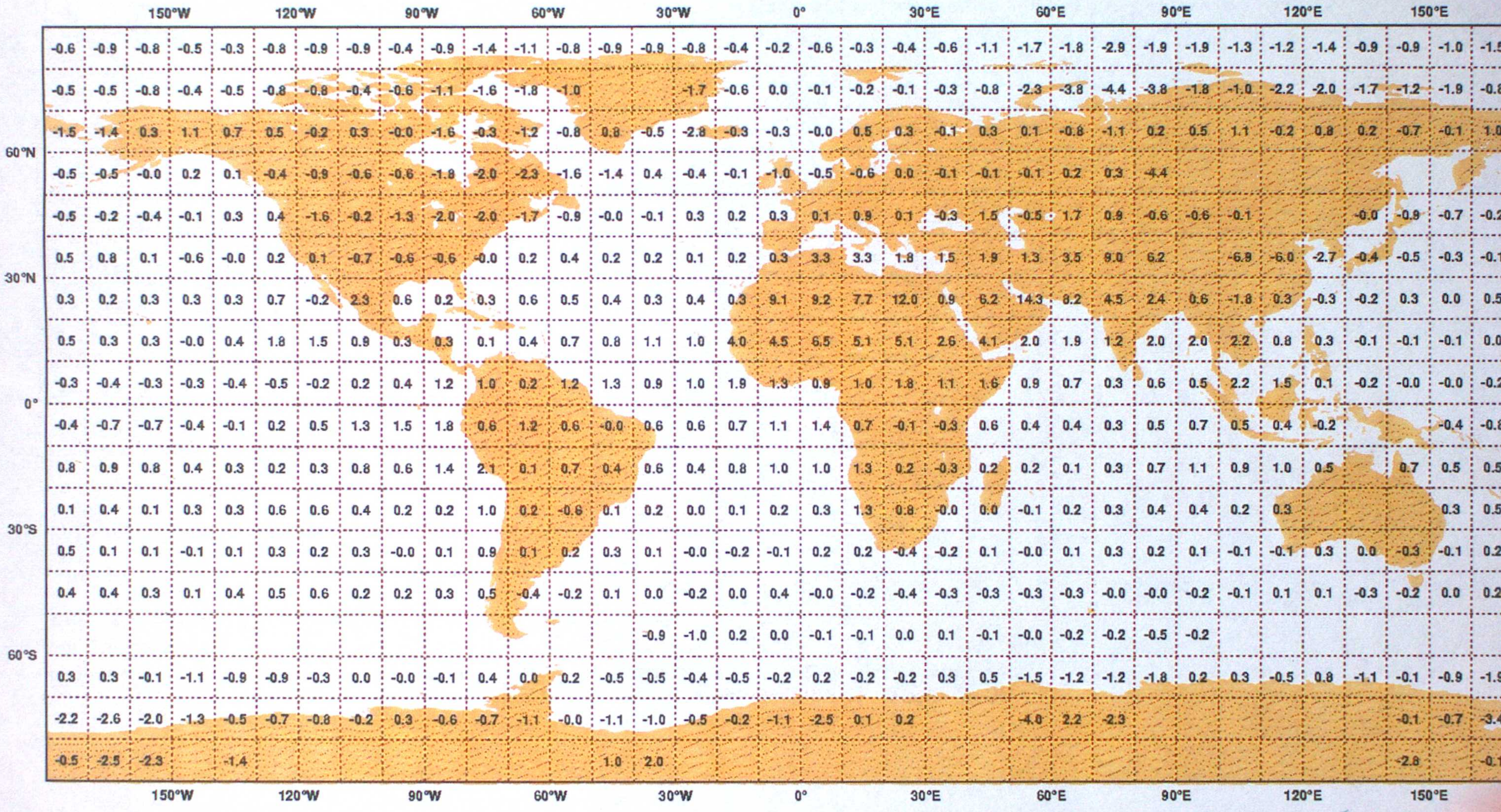
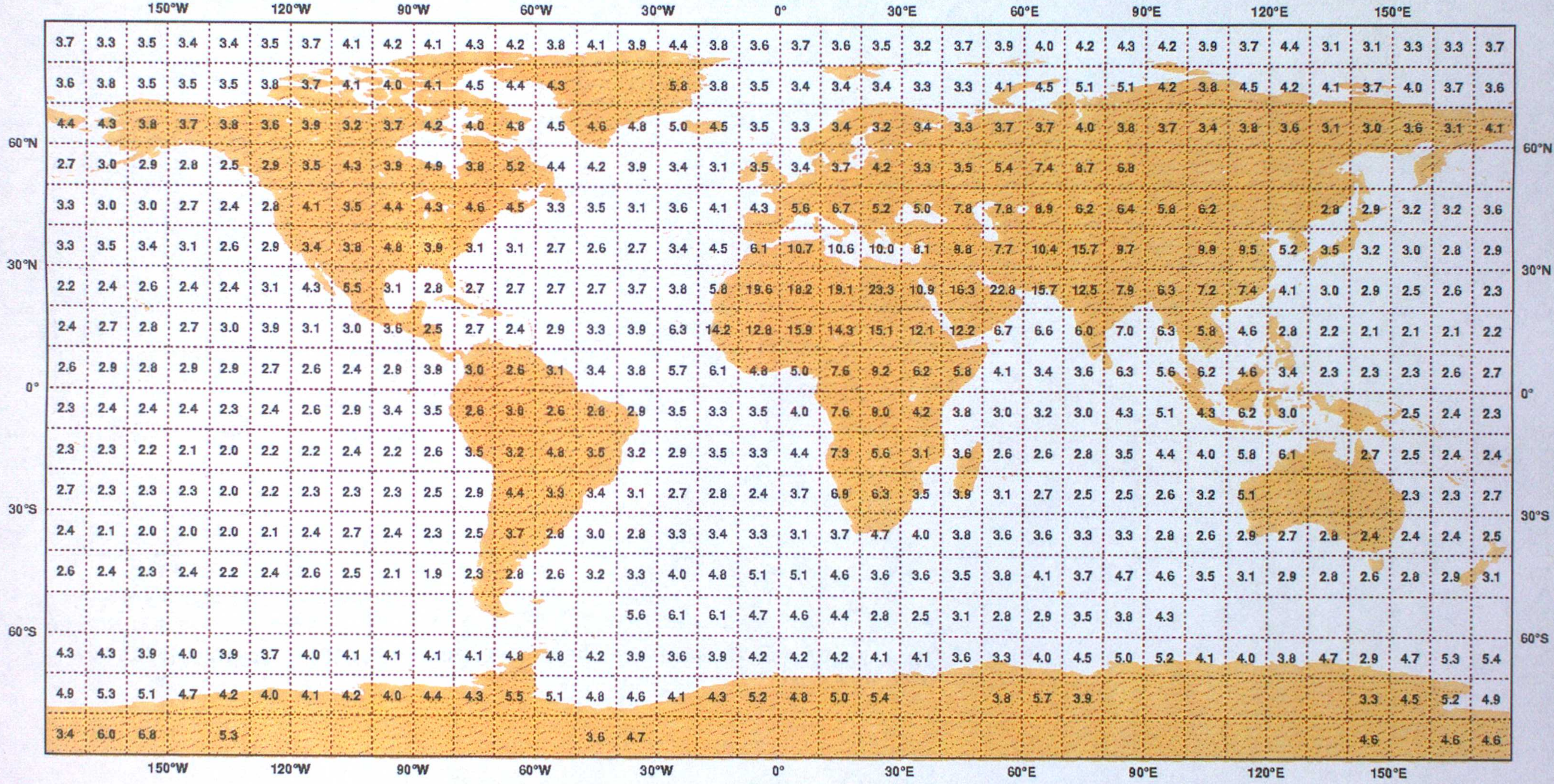

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 13. SATOB 701 - 1000 hPa mean O-B speed differences (ms-1). APRIL 2006
All observations
Values are plotted where greater than 10 obs are present



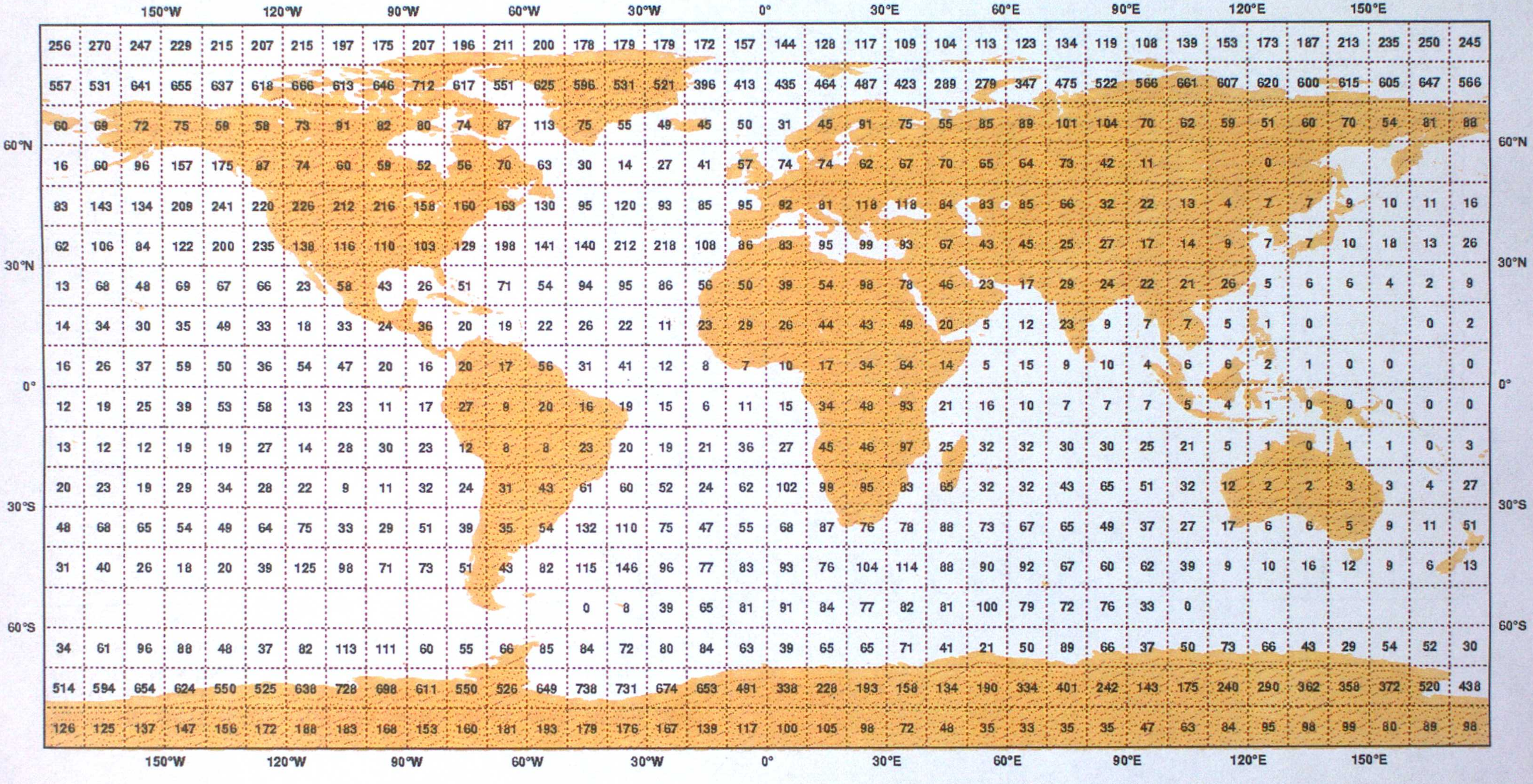
-0.6	-0.9	-0.8	-0.5	-0.3	-0.8	-0.9	-0.9	-0.4	-0.9	-1.4	-1.1	-0.8	-0.9	-0.9	-0.8	-0.4	-0.2	-0.6	-0.3	-0.4	-0.6	-1.1	-1.7	-1.8	-2.9	-1.9	-1.9	-1.3	-1.2	-1.4	-0.9	-0.9	-1.0
-0.5	-0.5	-0.8	-0.4	-0.5	-0.8	-0.8	-0.4	-0.6	-1.1	-1.6	-1.8	-1.0			-1.7	-0.6	0.0	-0.1	-0.2	-0.1	-0.3	-0.8	-2.3	-3.8	-4.4	-3.8	-1.8	-1.0	-2.2	-2.0	-1.7	-1.2	-1.9
-1.5	-1.4	0.3	1.1	0.7	0.5	-0.2	0.3	-0.0	-1.6	-0.3	-1.2	-0.8	0.8	-0.5	-2.8	-0.3	-0.3	-0.0	0.5	0.3	-0.1	0.3	0.1	-0.8	-1.1	0.2	0.5	1.1	-0.2	0.8	0.2	-0.7	-0.1
-0.5	-0.5	-0.0	0.2	0.1	-0.4	-0.9	-0.6	-0.6	-1.8	-2.0	-2.3	-1.6	-1.4	0.4	-0.4	-0.1	-1.0	-0.5	-0.6	0.0	-0.1	-0.1	-0.1	0.2	0.3	-4.4							
-0.5	-0.2	-0.4	-0.1	0.3	0.4	-1.6	-0.2	-1.3	-2.0	-2.0	-1.7	-0.9	-0.0	-0.1	0.3	0.2	0.3	0.1	0.9	0.1	-0.3	1.5	-0.5	1.7	0.9	-0.6	-0.6	-0.1			-0.0	-0.9	-0.7
0.5	0.8	0.1	-0.6	-0.0	0.2	0.1	-0.7	-0.6	-0.6	-0.0	0.2	0.4	0.2	0.2	0.1	0.2	0.3	3.3	3.3	1.8	1.5	1.9	1.3	3.5	9.0	6.2		-6.9	-6.0	-2.7	-0.4	-0.5	-0.3
0.3	0.2	0.3	0.3	0.3	0.7	-0.2	2.3	0.6	0.2	0.3	0.6	0.5	0.4	0.3	0.4	0.3	9.1	9.2	7.7	12.0	0.9	6.2	14.3	8.2	4.5	2.4	0.6	-1.8	0.3	-0.3	-0.2	0.3	0.0
0.5	0.3	0.3	-0.0	0.4	1.8	1.5	0.9	0.3	0.3	0.1	0.4	0.7	0.8	1.1	1.0	4.0	4.5	6.5	5.1	5.1	2.6	4.1	2.0	1.9	1.2	2.0	2.0	2.2	0.8	0.3	-0.1	-0.1	-0.1
-0.3	-0.4	-0.3	-0.3	-0.4	-0.5	-0.2	0.2	0.4	1.2	1.0	0.2	1.2	1.3	0.9	1.0	1.9	1.3	0.9	1.0	1.8	1.1	1.6	0.9	0.7	0.3	0.6	0.5	2.2	1.5	0.1	-0.2	-0.0	-0.0
-0.4	-0.7	-0.7	-0.4	-0.1	0.2	0.5	1.3	1.5	1.8	0.6	1.2	0.6	-0.0	0.6	0.6	0.7	1.1	1.4	0.7	-0.1	-0.3	0.6	0.4	0.4	0.3	0.5	0.7	0.5	0.4	-0.2			-0.4
0.8	0.9	0.8	0.4	0.3	0.2	0.3	0.8	0.6	1.4	2.1	0.1	0.7	0.4	0.6	0.4	0.8	1.0	1.0	1.3	0.2	-0.3	0.2	0.2	0.1	0.3	0.7	1.1	0.9	1.0	0.5		0.7	0.5
0.1	0.4	0.1	0.3	0.3	0.6	0.6	0.4	0.2	0.2	1.0	0.2	-0.6	0.1	0.2	0.0	0.1	0.2	0.3	1.3	0.8	-0.0	0.0	-0.1	0.2	0.3	0.4	0.4	0.2	0.3			0.3	0.5
0.5	0.1	0.1	-0.1	0.1	0.3	0.2	0.3	-0.0	0.1	0.9	0.1	0.2	0.3	0.1	-0.0	-0.2	-0.1	0.2	0.2	-0.4	-0.2	0.1	-0.0	0.1	0.3	0.2	0.1	-0.1	-0.1	0.3	0.0	-0.3	-0.1
0.4	0.4	0.3	0.1	0.4	0.5	0.6	0.2	0.2	0.3	0.5	-0.4	-0.2	0.1	0.0	-0.2	0.0	0.4	-0.0	-0.2	-0.4	-0.3	-0.3	-0.3	-0.3	-0.0	-0.0	-0.2	-0.1	0.1	0.1	-0.3	-0.2	0.0
														-0.9	-1.0	0.2	0.0	-0.1	-0.1	0.0	0.1	-0.1	-0.0	-0.2	-0.2	-0.5	-0.2						
0.3	0.3	-0.1	-1.1	-0.9	-0.9	-0.3	0.0	-0.0	-0.1	0.4	0.0	0.2	-0.5	-0.5	-0.4	-0.5	-0.2	0.2	-0.2	-0.2	0.3	0.5	-1.5	-1.2	-1.2	-1.8	0.2	0.3	-0.5	0.8	-1.1	-0.1	-0.9
-2.2	-2.6	-2.0	-1.3	-0.5	-0.7	-0.8	-0.2	0.3	-0.6	-0.7	-1.1	-0.0	-1.1	-1.0	-0.5	-0.2	-1.1	-2.5	0.1	0.2			-4.0	2.2	-2.3							-0.1	-0.7
-0.5	-2.5	-2.3		-1.4									1.0	2.0																		-2.8	

Figure 14. SATOB 701 - 1000 hPa mean RMS O-B vector differences (ms-1). APRIL 2006
All observations
Values are plotted where greater than 10 obs are present



3.7	3.3	3.5	3.4	3.4	3.5	3.7	4.1	4.2	4.1	4.3	4.2	3.8	4.1	3.9	4.4	3.8	3.6	3.7	3.6	3.5	3.2	3.7	3.9	4.0	4.2	4.3	4.2	3.9	3.7	4.4	3.1	3.1	3.3	3.3	3.7
3.6	3.8	3.5	3.5	3.5	3.8	3.7	4.1	4.0	4.1	4.5	4.4	4.3			5.8	3.8	3.5	3.4	3.4	3.4	3.3	3.3	4.1	4.5	5.1	5.1	4.2	3.8	4.5	4.2	4.1	3.7	4.0	3.7	3.6
4.4	4.3	3.8	3.7	3.8	3.6	3.9	3.2	3.7	4.2	4.0	4.8	4.5	4.6	4.8	5.0	4.5	3.5	3.3	3.4	3.2	3.4	3.3	3.7	3.7	4.0	3.8	3.7	3.4	3.8	3.6	3.1	3.0	3.6	3.1	4.1
2.7	3.0	2.9	2.8	2.5	2.9	3.5	4.3	3.9	4.9	3.8	5.2	4.4	4.2	3.9	3.4	3.1	3.5	3.4	3.7	4.2	3.3	3.5	5.4	7.4	8.7	6.8									
3.3	3.0	3.0	2.7	2.4	2.8	4.1	3.5	4.4	4.3	4.6	4.5	3.3	3.5	3.1	3.6	4.1	4.3	5.6	6.7	5.2	5.0	7.8	7.8	8.9	6.2	6.4	5.8	6.2			2.8	2.9	3.2	3.2	3.6
3.3	3.5	3.4	3.1	2.6	2.9	3.4	3.8	4.8	3.9	3.1	3.1	2.7	2.6	2.7	3.4	4.5	6.1	10.7	10.6	10.0	8.1	9.8	7.7	10.4	15.7	9.7		9.9	9.5	5.2	3.5	3.2	3.0	2.8	2.9
2.2	2.4	2.6	2.4	2.4	3.1	4.3	5.5	3.1	2.8	2.7	2.7	2.7	2.7	3.7	3.8	5.8	19.6	18.2	19.1	23.3	10.9	16.3	22.8	15.7	12.5	7.9	6.3	7.2	7.4	4.1	3.0	2.9	2.5	2.6	2.3
2.4	2.7	2.8	2.7	3.0	3.9	3.1	3.0	3.6	2.5	2.7	2.4	2.9	3.3	3.9	6.3	14.2	12.8	15.9	14.3	15.1	12.1	12.2	6.7	6.6	6.0	7.0	6.3	5.8	4.6	2.8	2.2	2.1	2.1	2.1	2.2
2.6	2.9	2.8	2.9	2.9	2.7	2.6	2.4	2.9	3.8	3.0	2.6	3.1	3.4	3.8	5.7	6.1	4.8	5.0	7.6	9.2	6.2	5.8	4.1	3.4	3.6	6.3	5.6	6.2	4.6	3.4	2.3	2.3	2.3	2.6	2.7
2.3	2.4	2.4	2.4	2.3	2.4	2.6	2.9	3.4	3.5	2.6	3.0	2.6	2.8	2.9	3.5	3.3	3.5	4.0	7.6	8.0	4.2	3.8	3.0	3.2	3.0	4.3	5.1	4.3	6.2	3.0			2.5	2.4	2.3
2.3	2.3	2.2	2.1	2.0	2.2	2.2	2.4	2.2	2.6	3.5	3.2	4.8	3.5	3.2	2.9	3.5	3.3	4.4	7.3	5.6	3.1	3.6	2.6	2.6	2.8	3.5	4.4	4.0	5.8	6.1		2.7	2.5	2.4	2.4
2.7	2.3	2.3	2.3	2.0	2.2	2.3	2.3	2.3	2.5	2.9	4.4	3.3	3.4	3.1	2.7	2.8	2.4	3.7	6.9	6.3	3.5	3.9	3.1	2.7	2.5	2.5	2.6	3.2	5.1				2.3	2.3	2.7
2.4	2.1	2.0	2.0	2.0	2.1	2.4	2.7	2.4	2.3	2.5	3.7	2.8	3.0	2.8	3.3	3.4	3.3	3.1	3.7	4.7	4.0	3.8	3.6	3.6	3.3	3.3	2.8	2.6	2.9	2.7	2.8	2.4	2.4	2.4	2.5
2.6	2.4	2.3	2.4	2.2	2.4	2.6	2.5	2.1	1.9	2.3	2.8	2.6	3.2	3.3	4.0	4.8	5.1	5.1	4.6	3.6	3.6	3.5	3.8	4.1	3.7	4.7	4.6	3.5	3.1	2.9	2.8	2.6	2.8	2.9	3.1
														5.6	6.1	6.1	4.7	4.6	4.4	2.8	2.5	3.1	2.8	2.9	3.5	3.8	4.3								
4.3	4.3	3.9	4.0	3.9	3.7	4.0	4.1	4.1	4.1	4.1	4.8	4.8	4.2	3.9	3.6	3.9	4.2	4.2	4.2	4.1	4.1	3.6	3.3	4.0	4.5	5.0	5.2	4.1	4.0	3.8	4.7	2.9	4.7	5.3	5.4
4.9	5.3	5.1	4.7	4.2	4.0	4.1	4.2	4.0	4.4	4.3	5.5	5.1	4.8	4.6	4.1	4.3	5.2	4.8	5.0	5.4			3.8	5.7	3.9							3.3	4.5	5.2	4.9
3.4	6.0	6.8		5.3									3.6	4.7																		4.6		4.6	4.6

Figure 15. SATOB 401 - 700 hPa mean daily count. APRIL 2006
Global average number of observations in 24 hours = 70959



256	270	247	229	215	207	215	197	175	207	196	211	200	178	179	179	172	157	144	128	117	109	104	113	123	134	119	108	139	153	173	187	213	235	250	245
557	531	641	655	637	618	666	613	646	712	617	551	625	596	531	521	396	413	435	464	487	423	289	279	347	475	522	566	661	607	620	600	615	605	647	566
60	69	72	75	59	58	73	91	82	80	74	87	113	75	55	49	45	50	31	45	91	75	55	85	89	101	104	70	62	59	51	60	70	54	81	88
16	60	96	157	175	87	74	60	59	52	56	70	63	30	14	27	41	57	74	74	62	67	70	65	64	73	42	11			0					
83	143	134	209	241	220	226	212	216	158	160	163	130	95	120	93	85	95	92	81	118	118	84	83	85	66	32	22	13	4	7	7	9	10	11	16
62	106	84	122	200	235	138	116	110	103	129	198	141	140	212	218	108	86	83	95	99	93	67	43	45	25	27	17	14	9	7	7	10	18	13	26
13	68	48	69	67	66	23	58	43	26	51	71	54	94	95	86	56	50	39	54	98	78	46	23	17	29	24	22	21	26	5	6	6	4	2	9
14	34	30	35	49	33	18	33	24	36	20	19	22	26	22	11	23	29	26	44	43	49	20	5	12	23	9	7	7	5	1	0			0	2
16	26	37	59	50	36	54	47	20	16	20	17	56	31	41	12	8	7	10	17	34	64	14	5	15	9	10	4	6	6	2	1	0	0		0
12	19	25	39	53	58	13	23	11	17	27	9	20	16	19	15	6	11	15	34	48	93	21	16	10	7	7	7	5	4	1	0	0	0	0	0
13	12	12	19	19	27	14	28	30	23	12	8	8	23	20	19	21	36	27	45	46	97	25	32	32	30	30	25	21	5	1	0	1	1	0	3
20	23	19	29	34	28	22	9	11	32	24	31	43	61	60	52	24	62	102	99	95	83	65	32	32	43	65	51	32	12	2	2	3	3	4	27
48	68	65	54	49	64	75	33	29	51	39	35	54	132	110	75	47	55	68	87	76	78	88	73	67	65	49	37	27	17	6	6	5	9	11	51
31	40	26	18	20	39	125	98	71	73	51	43	82	115	146	96	77	83	93	76	104	114	88	90	92	67	60	62	39	9	10	16	12	9	6	13
													0	8	39	65	81	91	84	77	82	81	100	79	72	76	33	0							
34	61	96	88	48	37	82	113	111	60	55	66	85	84	72	80	84	63	39	65	65	71	41	21	50	89	66	37	50	73	66	43	29	54	52	30
514	594	654	624	550	525	638	728	698	611	550	526	649	738	731	674	653	491	338	228	193	158	134	190	334	401	242	143	175	240	290	362	358	372	520	438
126	125	137	147	156	172	188	183	168	153	160	181	193	179	176	167	139	117	100	105	98	72	48	35	33	35	35	47	63	84	95	98	99	80	89	98

Figure 16. SATOB 401 - 700 hPa vector mean wind. APRIL 2006
All observations
Arrows are plotted where greater than 10 obs are present

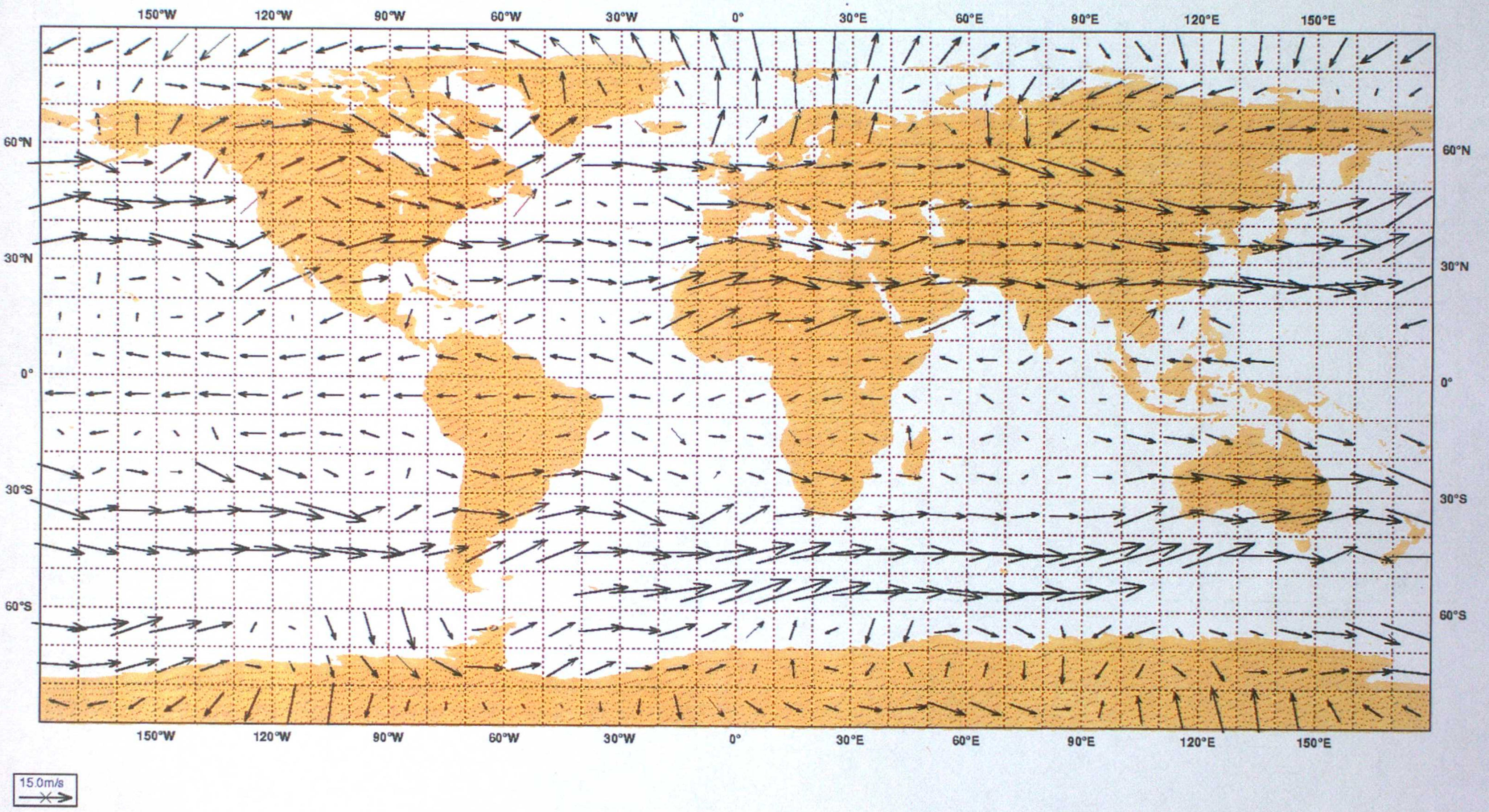

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 17. SATOB 401 - 700 hPa mean vector wind differences. APRIL 2006
All observations
Arrows are plotted where greater than 10 obs are present

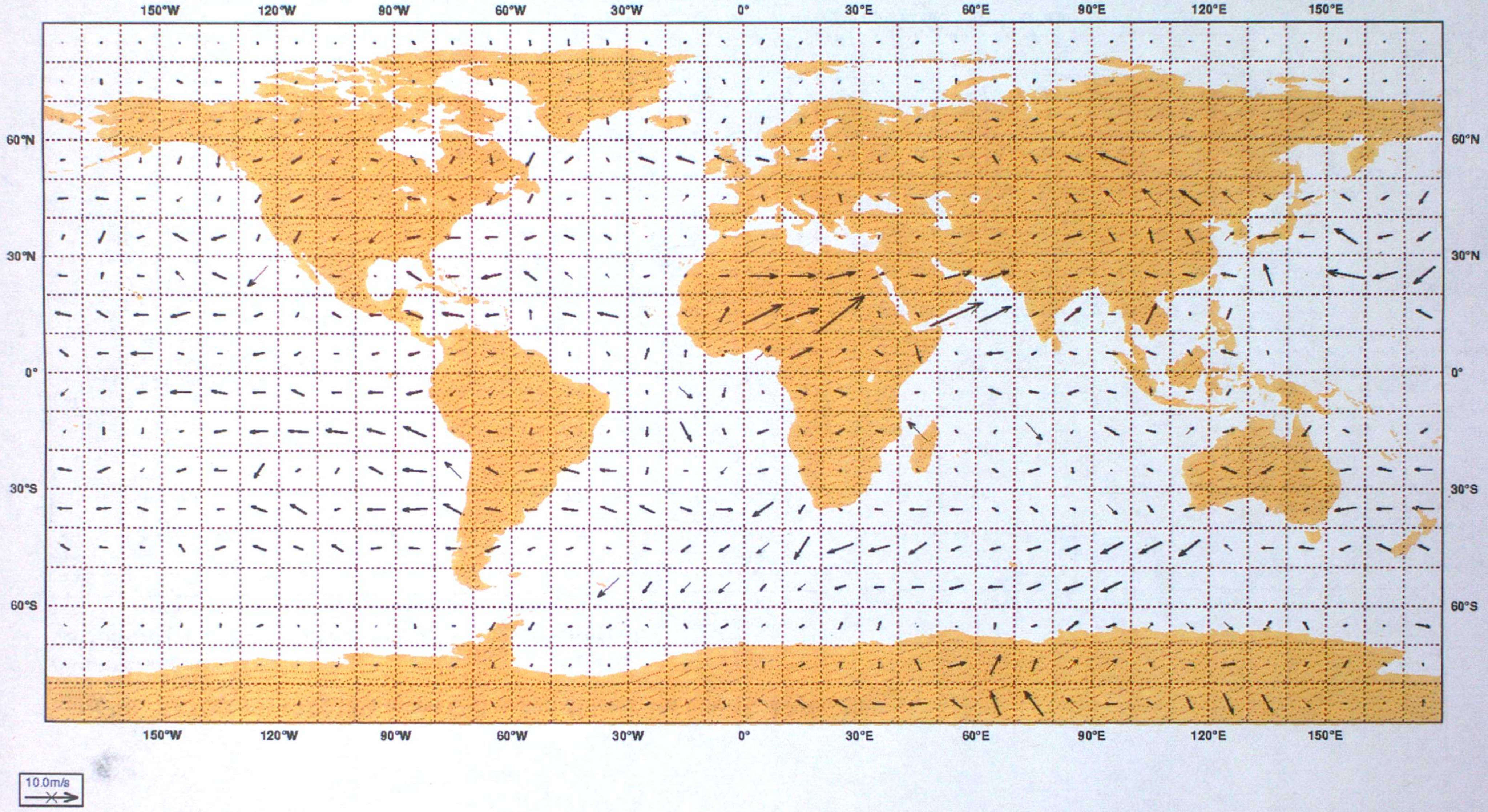
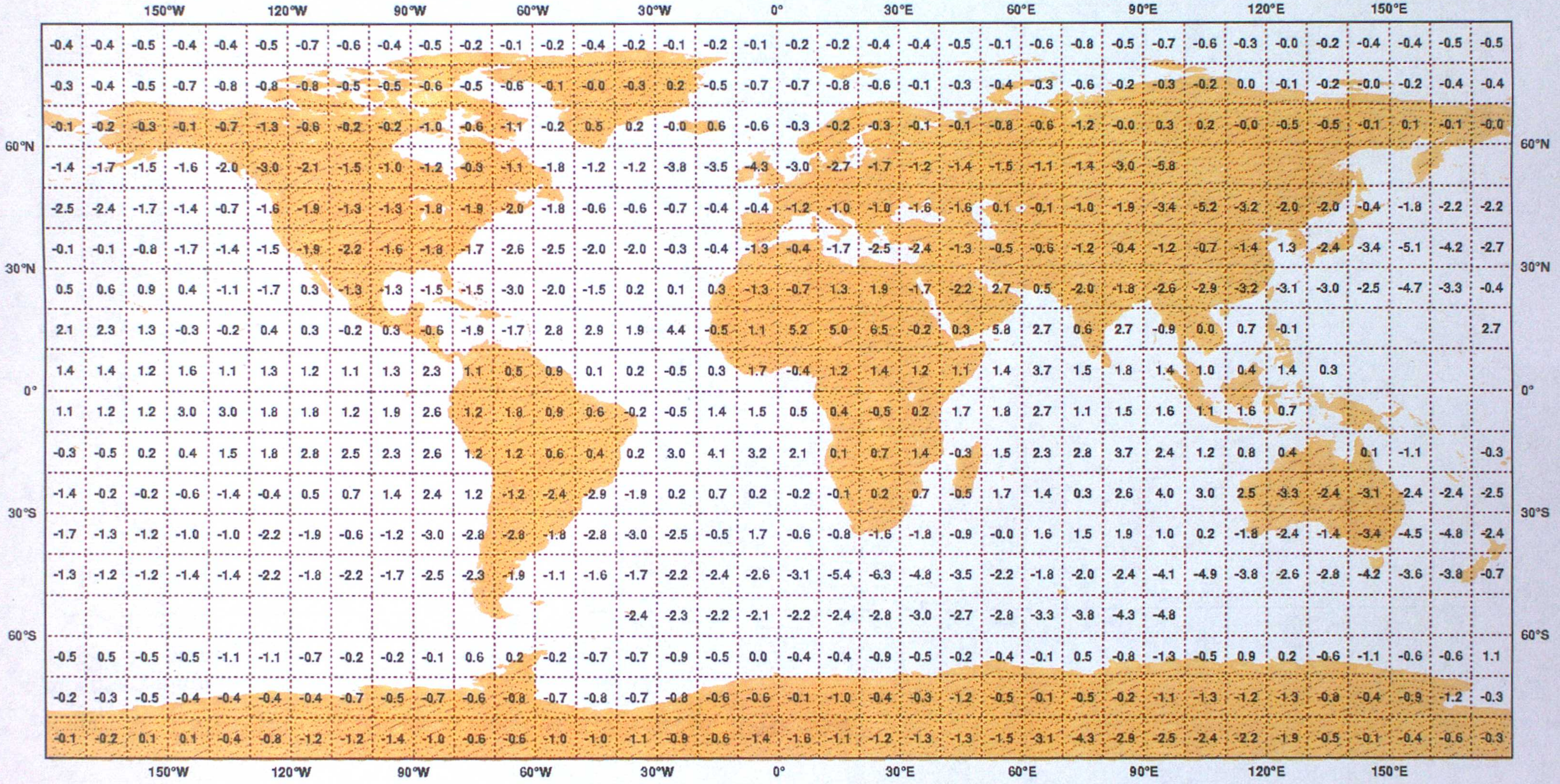
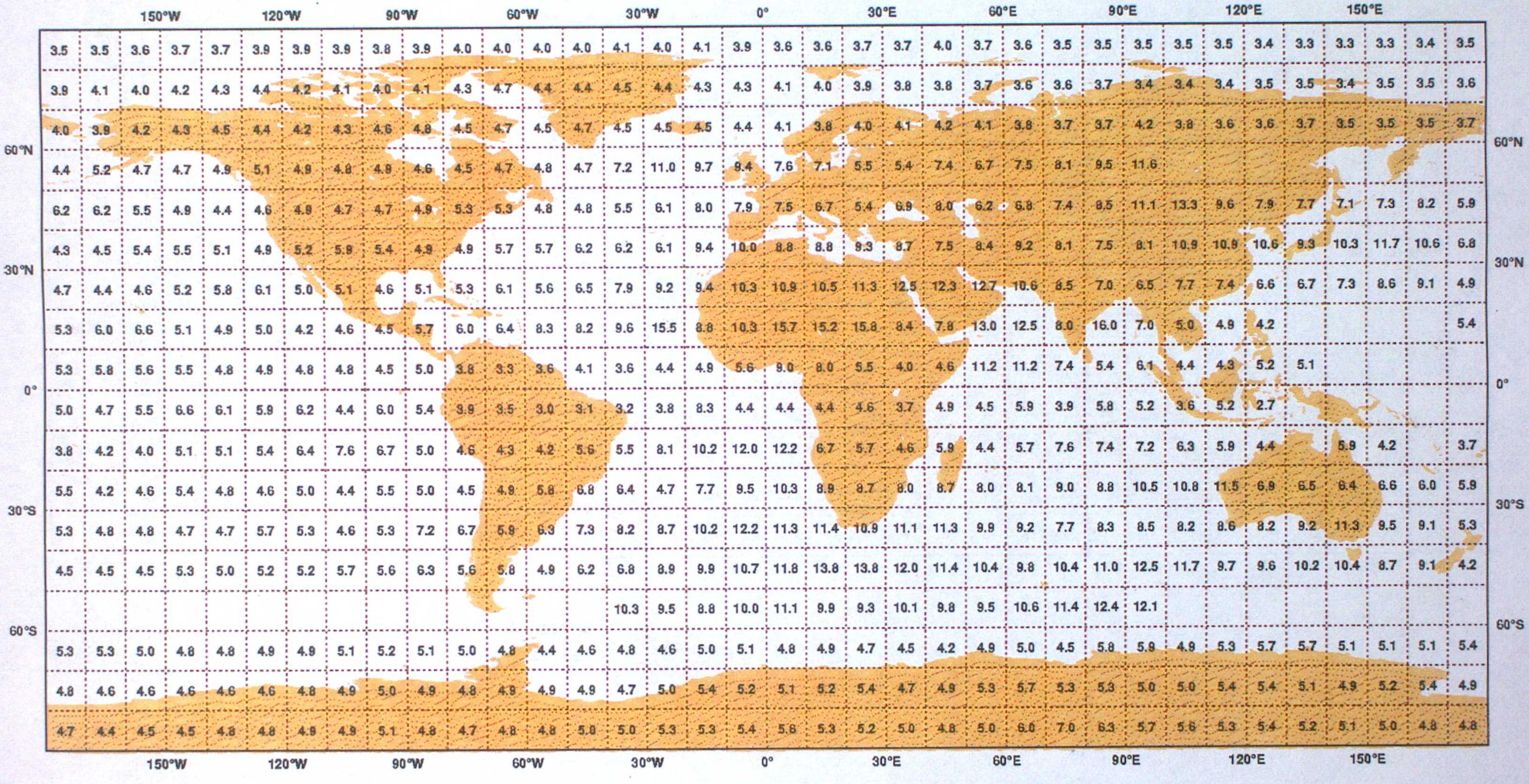

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 18. SATOB 401 - 700 hPa mean O-B speed differences (ms-1). APRIL 2006
All observations
Values are plotted where greater than 10 obs are present



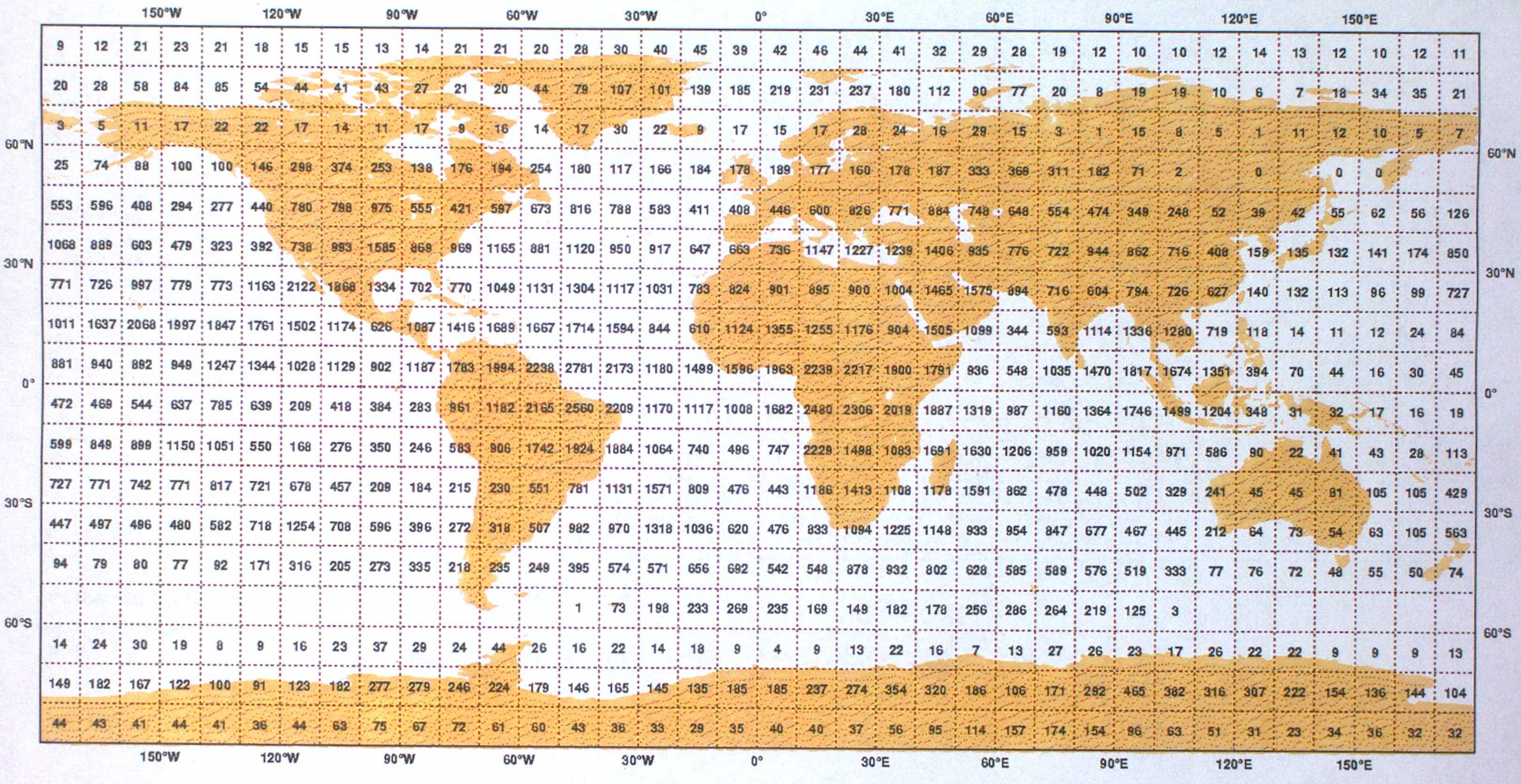
-0.4	-0.4	-0.5	-0.4	-0.4	-0.5	-0.7	-0.6	-0.4	-0.5	-0.2	-0.1	-0.2	-0.4	-0.2	-0.1	-0.2	-0.1	-0.2	-0.2	-0.4	-0.4	-0.5	-0.1	-0.6	-0.8	-0.5	-0.7	-0.6	-0.3	-0.0	-0.2	-0.4	-0.4	-0.5	-0.5
-0.3	-0.4	-0.5	-0.7	-0.8	-0.8	-0.8	-0.5	-0.5	-0.6	-0.5	-0.6	-0.1	-0.0	-0.3	0.2	-0.5	-0.7	-0.7	-0.8	-0.6	-0.1	-0.3	-0.4	-0.3	-0.6	-0.2	-0.3	-0.2	0.0	-0.1	-0.2	-0.0	-0.2	-0.4	-0.4
-0.1	-0.2	-0.3	-0.1	-0.7	-1.3	-0.6	-0.2	-0.2	-1.0	-0.6	-1.1	-0.2	0.5	0.2	-0.0	0.6	-0.6	-0.3	-0.2	-0.3	-0.1	-0.1	-0.8	-0.6	-1.2	-0.0	0.3	0.2	-0.0	-0.5	-0.5	-0.1	0.1	-0.1	-0.0
-1.4	-1.7	-1.5	-1.6	-2.0	-3.0	-2.1	-1.5	-1.0	-1.2	-0.3	-1.1	-1.8	-1.2	-1.2	-3.8	-3.5	-4.3	-3.0	-2.7	-1.7	-1.2	-1.4	-1.5	-1.1	-1.4	-3.0	-5.8								
-2.5	-2.4	-1.7	-1.4	-0.7	-1.6	-1.9	-1.3	-1.3	-1.8	-1.9	-2.0	-1.8	-0.6	-0.6	-0.7	-0.4	-0.4	-1.2	-1.0	-1.0	-1.6	-1.6	0.1	-0.1	-1.0	-1.9	-3.4	-5.2	-3.2	-2.0	-2.0	-0.4	-1.8	-2.2	-2.2
-0.1	-0.1	-0.8	-1.7	-1.4	-1.5	-1.9	-2.2	-1.6	-1.8	-1.7	-2.6	-2.5	-2.0	-2.0	-0.3	-0.4	-1.3	-0.4	-1.7	-2.5	-2.4	-1.3	-0.5	-0.6	-1.2	-0.4	-1.2	-0.7	-1.4	1.3	-2.4	-3.4	-5.1	-4.2	-2.7
0.5	0.6	0.9	0.4	-1.1	-1.7	0.3	-1.3	-1.3	-1.5	-1.5	-3.0	-2.0	-1.5	0.2	0.1	0.3	-1.3	-0.7	1.3	1.9	-1.7	-2.2	2.7	0.5	-2.0	-1.8	-2.6	-2.9	-3.2	-3.1	-3.0	-2.5	-4.7	-3.3	-0.4
2.1	2.3	1.3	-0.3	-0.2	0.4	0.3	-0.2	0.3	-0.6	-1.9	-1.7	2.8	2.9	1.9	4.4	-0.5	1.1	5.2	5.0	6.5	-0.2	0.3	5.8	2.7	0.6	2.7	-0.9	0.0	0.7	-0.1					2.7
1.4	1.4	1.2	1.6	1.1	1.3	1.2	1.1	1.3	2.3	1.1	0.5	0.9	0.1	0.2	-0.5	0.3	1.7	-0.4	1.2	1.4	1.2	1.1	1.4	3.7	1.5	1.8	1.4	1.0	0.4	1.4	0.3				
1.1	1.2	1.2	3.0	3.0	1.8	1.8	1.2	1.9	2.6	1.2	1.8	0.9	0.6	-0.2	-0.5	1.4	1.5	0.5	0.4	-0.5	0.2	1.7	1.8	2.7	1.1	1.5	1.6	1.1	1.6	0.7					
-0.3	-0.5	0.2	0.4	1.5	1.8	2.8	2.5	2.3	2.6	1.2	1.2	0.6	0.4	0.2	3.0	4.1	3.2	2.1	0.1	0.7	1.4	-0.3	1.5	2.3	2.8	3.7	2.4	1.2	0.8	0.4		0.1	-1.1		-0.3
-1.4	-0.2	-0.2	-0.6	-1.4	-0.4	0.5	0.7	1.4	2.4	1.2	-1.2	-2.4	-2.9	-1.9	0.2	0.7	0.2	-0.2	-0.1	0.2	0.7	-0.5	1.7	1.4	0.3	2.6	4.0	3.0	2.5	-3.3	-2.4	-3.1	-2.4	-2.4	-2.5
-1.7	-1.3	-1.2	-1.0	-1.0	-2.2	-1.9	-0.6	-1.2	-3.0	-2.8	-2.8	-1.8	-2.8	-3.0	-2.5	-0.5	1.7	-0.6	-0.8	-1.6	-1.8	-0.9	-0.0	1.6	1.5	1.9	1.0	0.2	-1.8	-2.4	-1.4	-3.4	-4.5	-4.8	-2.4
-1.3	-1.2	-1.2	-1.4	-1.4	-2.2	-1.8	-2.2	-1.7	-2.5	-2.3	-1.9	-1.1	-1.6	-1.7	-2.2	-2.4	-2.6	-3.1	-5.4	-6.3	-4.8	-3.5	-2.2	-1.8	-2.0	-2.4	-4.1	-4.9	-3.8	-2.6	-2.8	-4.2	-3.6	-3.8	-0.7
														-2.4	-2.3	-2.2	-2.1	-2.2	-2.4	-2.8	-3.0	-2.7	-2.8	-3.3	-3.8	-4.3	-4.8								
-0.5	0.5	-0.5	-0.5	-1.1	-1.1	-0.7	-0.2	-0.2	-0.1	0.6	0.2	-0.2	-0.7	-0.7	-0.9	-0.5	0.0	-0.4	-0.4	-0.9	-0.5	-0.2	-0.4	-0.1	0.5	-0.8	-1.3	-0.5	0.9	0.2	-0.6	-1.1	-0.6	-0.6	1.1
-0.2	-0.3	-0.5	-0.4	-0.4	-0.4	-0.4	-0.7	-0.5	-0.7	-0.6	-0.8	-0.7	-0.8	-0.7	-0.8	-0.6	-0.6	-0.1	-1.0	-0.4	-0.3	-1.2	-0.5	-0.1	-0.5	-0.2	-1.1	-1.3	-1.2	-1.3	-0.8	-0.4	-0.9	-1.2	-0.3
-0.1	-0.2	0.1	0.1	-0.4	-0.8	-1.2	-1.2	-1.4	-1.0	-0.6	-0.6	-1.0	-1.0	-1.1	-0.9	-0.6	-1.4	-1.6	-1.1	-1.2	-1.3	-1.3	-1.5	-3.1	-4.3	-2.9	-2.5	-2.4	-2.2	-1.9	-0.5	-0.1	-0.4	-0.6	-0.3

Figure 19. SATOB 401 - 700 hPa mean RMS O-B vector differences (ms-1). APRIL 2006
All observations
Values are plotted where greater than 10 obs are present



3.5	3.5	3.6	3.7	3.7	3.9	3.9	3.9	3.8	3.9	4.0	4.0	4.0	4.0	4.1	4.0	4.1	3.9	3.6	3.6	3.7	3.7	4.0	3.7	3.6	3.5	3.5	3.5	3.5	3.5	3.4	3.3	3.3	3.3	3.4	3.5
3.9	4.1	4.0	4.2	4.3	4.4	4.2	4.1	4.0	4.1	4.3	4.7	4.4	4.4	4.5	4.4	4.3	4.3	4.1	4.0	3.9	3.8	3.8	3.7	3.6	3.6	3.7	3.4	3.4	3.4	3.5	3.5	3.4	3.5	3.5	3.6
4.0	3.9	4.2	4.3	4.5	4.4	4.2	4.3	4.6	4.8	4.5	4.7	4.5	4.7	4.5	4.5	4.5	4.4	4.1	3.8	4.0	4.1	4.2	4.1	3.8	3.7	3.7	4.2	3.8	3.6	3.6	3.7	3.5	3.5	3.5	3.7
4.4	5.2	4.7	4.7	4.9	5.1	4.9	4.8	4.9	4.6	4.5	4.7	4.8	4.7	7.2	11.0	9.7	9.4	7.6	7.1	5.5	5.4	7.4	6.7	7.5	8.1	9.5	11.6								
6.2	6.2	5.5	4.9	4.4	4.6	4.9	4.7	4.7	4.9	5.3	5.3	4.8	4.8	5.5	6.1	8.0	7.9	7.5	6.7	5.4	6.9	8.0	6.2	6.8	7.4	8.5	11.1	13.3	9.6	7.9	7.7	7.1	7.3	8.2	5.9
4.3	4.5	5.4	5.5	5.1	4.9	5.2	5.9	5.4	4.9	4.9	5.7	5.7	6.2	6.2	6.1	9.4	10.0	8.8	8.8	9.3	8.7	7.5	8.4	9.2	8.1	7.5	8.1	10.9	10.9	10.6	9.3	10.3	11.7	10.6	6.8
4.7	4.4	4.6	5.2	5.8	6.1	5.0	5.1	4.6	5.1	5.3	6.1	5.6	6.5	7.9	9.2	9.4	10.3	10.9	10.5	11.3	12.5	12.3	12.7	10.6	8.5	7.0	6.5	7.7	7.4	6.6	6.7	7.3	8.6	9.1	4.9
5.3	6.0	6.6	5.1	4.9	5.0	4.2	4.6	4.5	5.7	6.0	6.4	8.3	8.2	9.6	15.5	8.8	10.3	15.7	15.2	15.8	8.4	7.8	13.0	12.5	8.0	16.0	7.0	5.0	4.9	4.2					5.4
5.3	5.8	5.6	5.5	4.8	4.9	4.8	4.8	4.5	5.0	3.8	3.3	3.6	4.1	3.6	4.4	4.9	5.6	9.0	8.0	5.5	4.0	4.6	11.2	11.2	7.4	5.4	6.1	4.4	4.3	5.2	5.1				
5.0	4.7	5.5	6.6	6.1	5.9	6.2	4.4	6.0	5.4	3.9	3.5	3.0	3.1	3.2	3.8	8.3	4.4	4.4	4.4	4.6	3.7	4.9	4.5	5.9	3.9	5.8	5.2	3.6	5.2	2.7					
3.8	4.2	4.0	5.1	5.1	5.4	6.4	7.6	6.7	5.0	4.6	4.3	4.2	5.6	5.5	8.1	10.2	12.0	12.2	6.7	5.7	4.6	5.9	4.4	5.7	7.6	7.4	7.2	6.3	5.9	4.4		5.9	4.2		3.7
5.5	4.2	4.6	5.4	4.8	4.6	5.0	4.4	5.5	5.0	4.5	4.9	5.8	6.8	6.4	4.7	7.7	9.5	10.3	8.9	8.7	8.0	8.7	8.0	8.1	9.0	8.8	10.5	10.8	11.5	6.9	6.5	6.4	6.6	6.0	5.9
5.3	4.8	4.8	4.7	4.7	5.7	5.3	4.6	5.3	7.2	6.7	5.9	6.3	7.3	8.2	8.7	10.2	12.2	11.3	11.4	10.9	11.1	11.3	9.9	9.2	7.7	8.3	8.5	8.2	8.6	8.2	9.2	11.3	9.5	9.1	5.3
4.5	4.5	4.5	5.3	5.0	5.2	5.2	5.7	5.6	6.3	5.6	5.8	4.9	6.2	6.8	8.9	9.9	10.7	11.8	13.8	13.8	12.0	11.4	10.4	9.8	10.4	11.0	12.5	11.7	9.7	9.6	10.2	10.4	8.7	9.1	4.2
														10.3	9.5	8.8	10.0	11.1	9.9	9.3	10.1	9.8	9.5	10.6	11.4	12.4	12.1								
5.3	5.3	5.0	4.8	4.8	4.9	4.9	5.1	5.2	5.1	5.0	4.8	4.4	4.6	4.8	4.6	5.0	5.1	4.8	4.9	4.7	4.5	4.2	4.9	5.0	4.5	5.8	5.9	4.9	5.3	5.7	5.7	5.1	5.1	5.1	5.4
4.8	4.6	4.6	4.6	4.6	4.6	4.8	4.9	5.0	4.9	4.8	4.9	4.9	4.9	4.7	5.0	5.4	5.2	5.1	5.2	5.4	4.7	4.9	5.3	5.7	5.3	5.3	5.0	5.0	5.4	5.4	5.1	4.9	5.2	5.4	4.9
4.7	4.4	4.5	4.5	4.8	4.8	4.9	4.9	5.1	4.8	4.7	4.8	4.8	5.0	5.0	5.3	5.3	5.4	5.8	5.3	5.2	5.0	4.8	5.0	6.0	7.0	6.3	5.7	5.6	5.3	5.4	5.2	5.1	5.0	4.8	4.8

Figure 20. SATOB 101 - 400 hPa mean daily count. APRIL 2006
Global average number of observations in 24 hours = 308148



9	12	21	23	21	18	15	15	13	14	21	21	20	28	30	40	45	39	42	46	44	41	32	29	28	19	12	10	10	12	14	13	12	10	12	11
20	28	58	84	85	54	44	41	43	27	21	20	44	79	107	101	139	185	219	231	237	180	112	90	77	20	8	19	19	10	6	7	18	34	35	21
3	5	11	17	22	22	17	14	11	17	9	16	14	17	30	22	9	17	15	17	28	24	16	29	15	3	1	15	8	5	1	11	12	10	5	7
25	74	88	100	100	146	298	374	253	138	176	194	254	180	117	166	184	178	189	177	160	178	187	333	368	311	182	71	2		0		0	0		
553	596	408	294	277	440	780	798	975	555	421	597	673	816	788	583	411	408	446	600	826	771	884	748	648	554	474	349	248	52	39	42	55	62	56	126
1068	889	603	479	323	392	738	993	1585	869	969	1165	881	1120	950	917	647	663	736	1147	1227	1239	1406	935	776	722	944	862	716	408	159	135	132	141	174	850
771	726	997	779	773	1163	2122	1868	1334	702	770	1049	1131	1304	1117	1031	783	824	901	895	900	1004	1465	1575	894	716	604	794	726	627	140	132	113	96	99	727
1011	1637	2068	1997	1847	1761	1502	1174	626	1087	1416	1689	1667	1714	1594	844	610	1124	1355	1255	1176	904	1505	1099	344	593	1114	1336	1280	719	118	14	11	12	24	84
881	940	892	949	1247	1344	1028	1129	902	1187	1783	1994	2238	2781	2173	1180	1499	1596	1963	2239	2217	1900	1791	936	548	1035	1470	1817	1674	1351	394	70	44	16	30	45
472	469	544	637	785	639	209	418	384	283	961	1182	2165	2560	2209	1170	1117	1008	1682	2480	2306	2019	1887	1319	987	1160	1364	1746	1499	1204	348	31	32	17	16	19
599	849	899	1150	1051	550	168	276	350	246	583	906	1742	1924	1884	1064	740	496	747	2229	1498	1083	1691	1630	1206	959	1020	1154	971	586	90	22	41	43	28	113
727	771	742	771	817	721	678	457	209	184	215	230	551	781	1131	1571	809	476	443	1186	1413	1108	1178	1591	862	478	448	502	329	241	45	45	81	105	105	429
447	497	496	480	582	718	1254	708	596	396	272	318	507	982	970	1318	1036	620	476	833	1094	1225	1148	933	954	847	677	467	445	212	64	73	54	63	105	563
94	79	80	77	92	171	316	205	273	335	218	235	249	395	574	571	656	692	542	548	878	932	802	628	585	589	576	519	333	77	76	72	48	55	50	74
													1	73	198	233	269	235	169	149	182	178	256	286	264	219	125	3							
14	24	30	19	8	9	16	23	37	29	24	44	26	16	22	14	18	9	4	9	13	22	16	7	13	27	26	23	17	26	22	22	9	9	9	13
149	182	167	122	100	91	123	182	277	279	246	224	179	146	165	145	135	185	185	237	274	354	320	186	106	171	292	465	382	316	307	222	154	136	144	104
44	43	41	44	41	36	44	63	75	67	72	61	60	43	36	33	29	35	40	40	37	56	95	114	157	174	154	96	63	51	31	23	34	36	32	32

Figure 21. SATOB 101 - 400 hPa vector mean wind. APRIL 2006
All observations
Arrows are plotted where greater than 10 obs are present

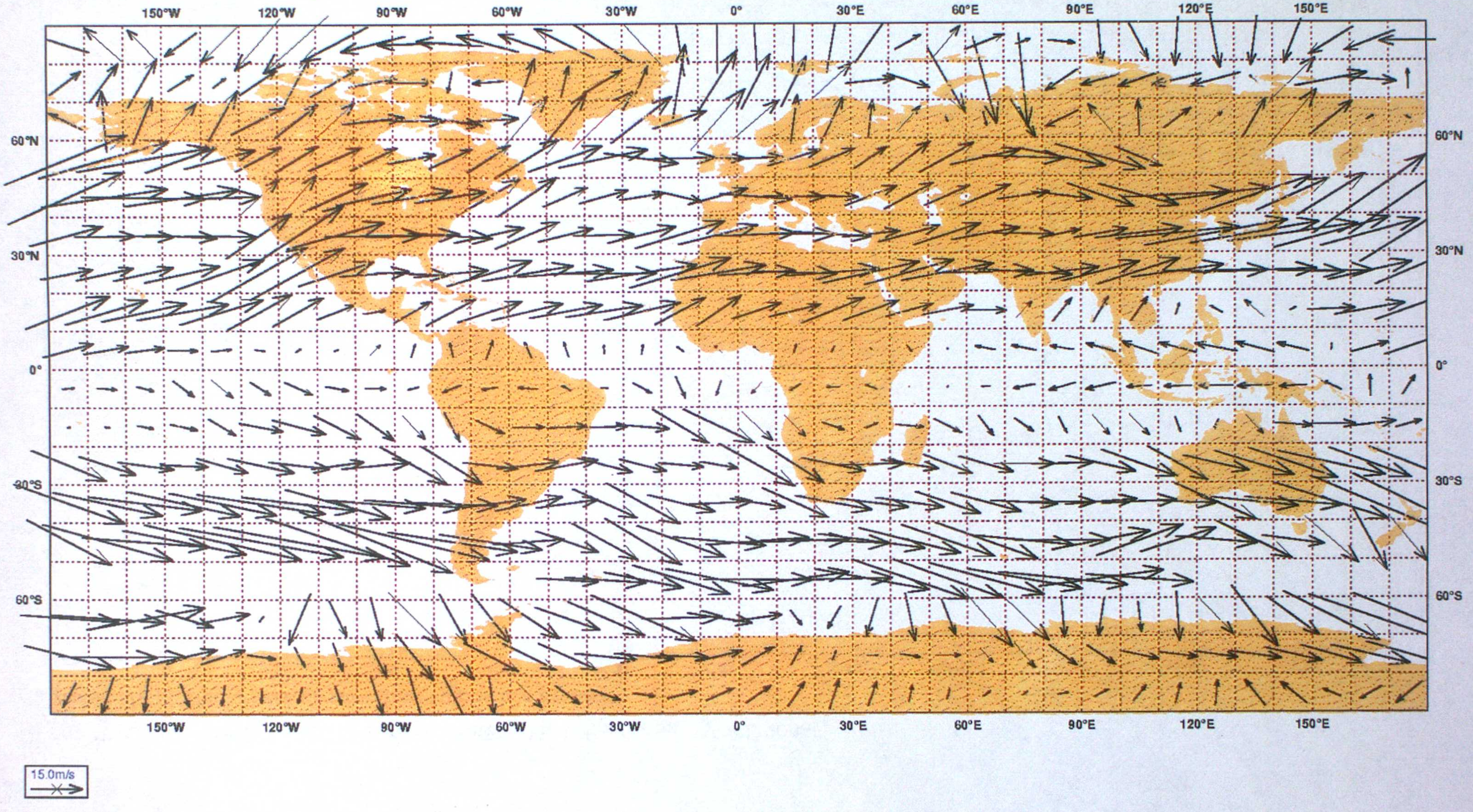

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
15.0m/s

Figure 22. SATOB 101 - 400 hPa mean vector wind differences. APRIL 2006
All observations
Arrows are plotted where greater than 10 obs are present

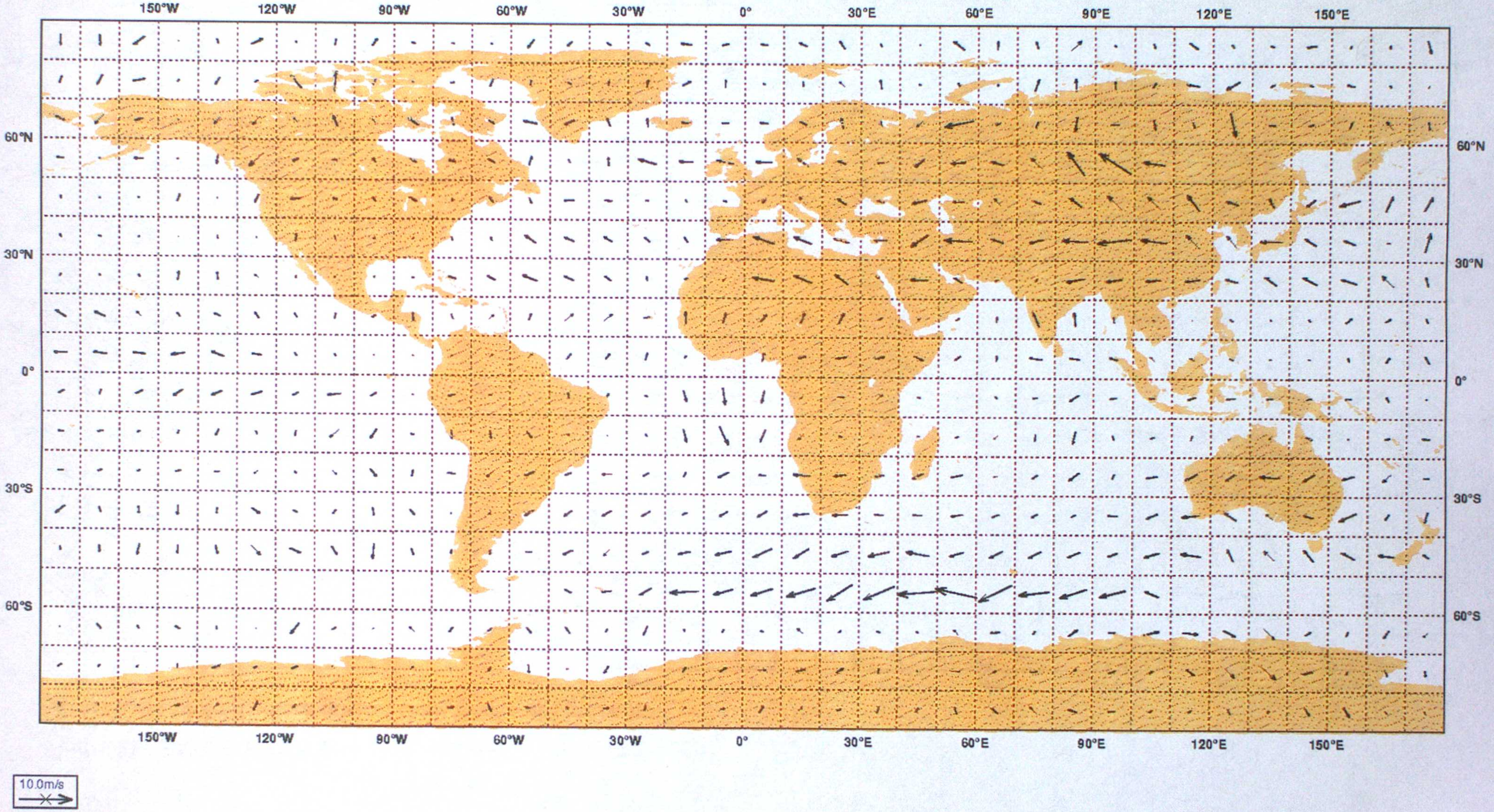
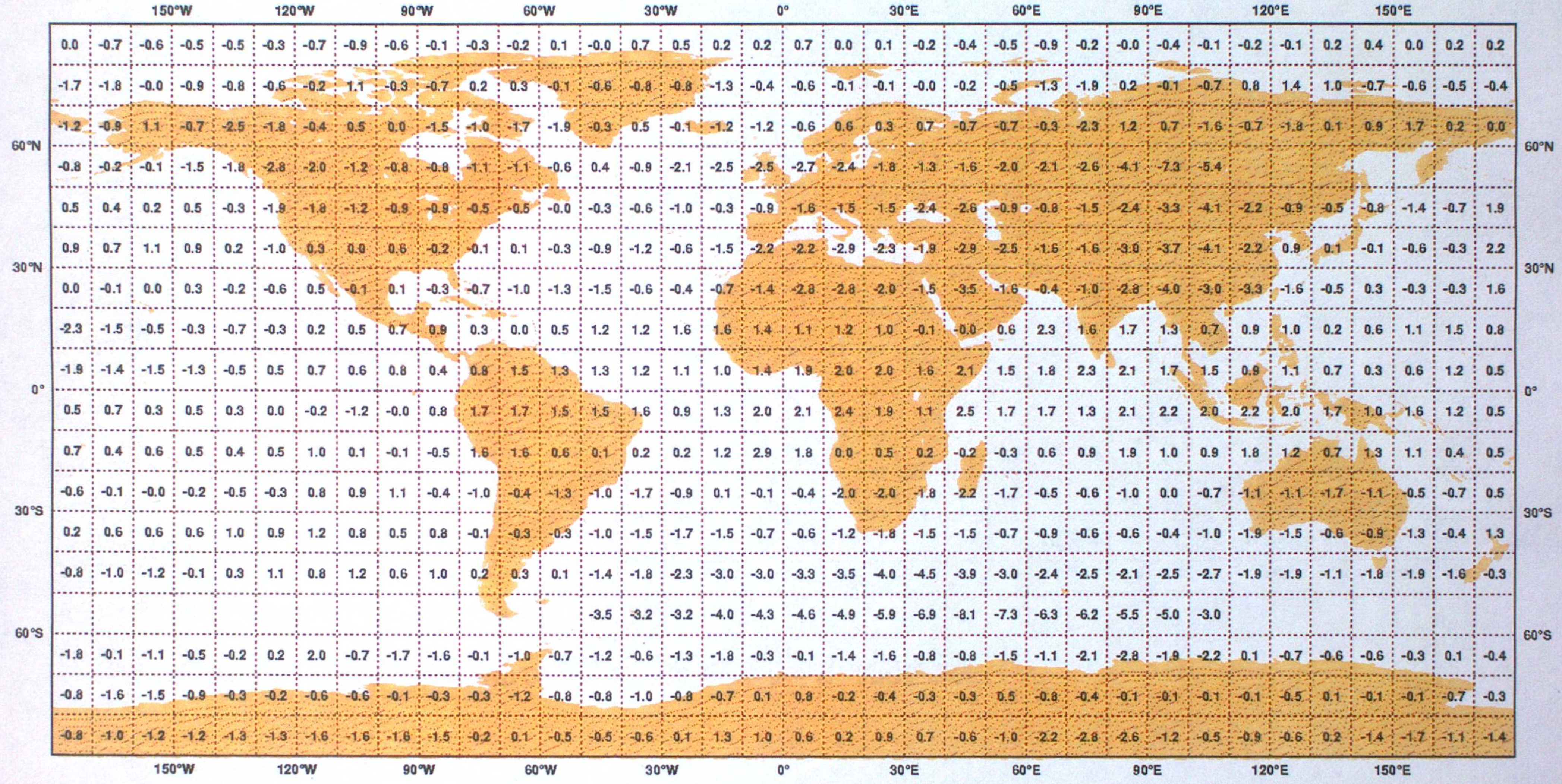
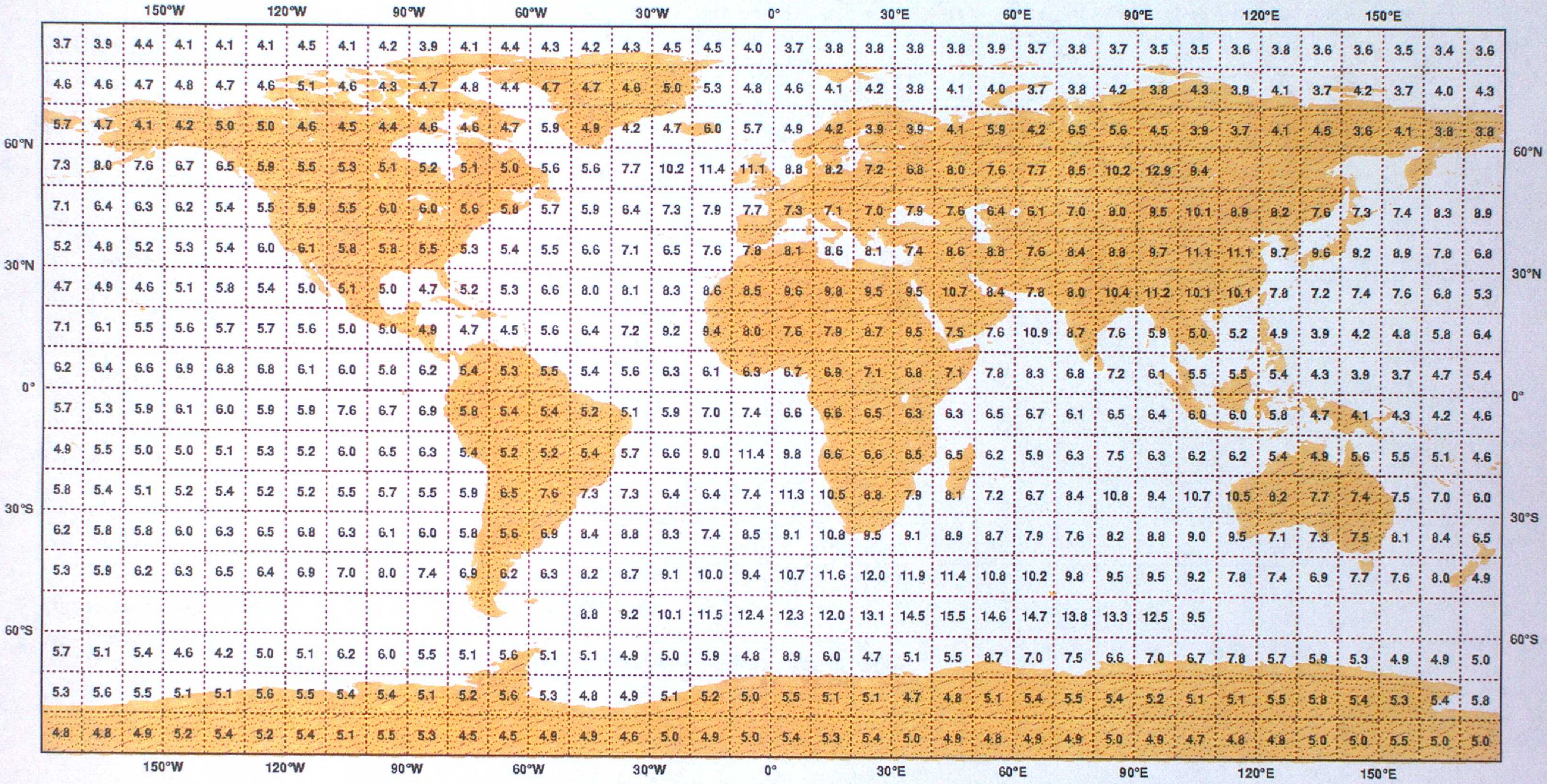

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
10.0m/s

Figure 23. SATOB 101 - 400 hPa mean O-B speed differences (ms-1). APRIL 2006
All observations
Values are plotted where greater than 10 obs are present



0.0	-0.7	-0.6	-0.5	-0.5	-0.3	-0.7	-0.9	-0.6	-0.1	-0.3	-0.2	0.1	-0.0	0.7	0.5	0.2	0.2	0.7	0.0	0.1	-0.2	-0.4	-0.5	-0.9	-0.2	-0.0	-0.4	-0.1	-0.2	-0.1	0.2	0.4	0.0	0.2	0.2
-1.7	-1.8	-0.0	-0.9	-0.8	-0.6	-0.2	1.1	-0.3	-0.7	0.2	0.3	-0.1	-0.6	-0.8	-0.8	-1.3	-0.4	-0.6	-0.1	-0.1	-0.0	-0.2	-0.5	-1.3	-1.9	0.2	-0.1	-0.7	0.8	1.4	1.0	-0.7	-0.6	-0.5	-0.4
-1.2	-0.9	1.1	-0.7	-2.5	-1.8	-0.4	0.5	0.0	-1.5	-1.0	-1.7	-1.9	-0.3	0.5	-0.1	-1.2	-1.2	-0.6	0.6	0.3	0.7	-0.7	-0.7	-0.3	-2.3	1.2	0.7	-1.6	-0.7	-1.8	0.1	0.9	1.7	0.2	0.0
-0.8	-0.2	-0.1	-1.5	-1.8	-2.8	-2.0	-1.2	-0.8	-0.8	-1.1	-1.1	-0.6	0.4	-0.9	-2.1	-2.5	-2.5	-2.7	-2.4	-1.8	-1.3	-1.6	-2.0	-2.1	-2.6	-4.1	-7.3	-5.4							
0.5	0.4	0.2	0.5	-0.3	-1.9	-1.8	-1.2	-0.9	-0.9	-0.5	-0.5	-0.0	-0.3	-0.6	-1.0	-0.3	-0.9	-1.6	-1.5	-1.5	-2.4	-2.6	-0.9	-0.8	-1.5	-2.4	-3.3	-4.1	-2.2	-0.9	-0.5	-0.8	-1.4	-0.7	1.9
0.9	0.7	1.1	0.9	0.2	-1.0	0.3	0.0	0.6	-0.2	-0.1	0.1	-0.3	-0.9	-1.2	-0.6	-1.5	-2.2	-2.2	-2.9	-2.3	-1.9	-2.9	-2.5	-1.6	-1.6	-3.0	-3.7	-4.1	-2.2	0.9	0.1	-0.1	-0.6	-0.3	2.2
0.0	-0.1	0.0	0.3	-0.2	-0.6	0.5	-0.1	0.1	-0.3	-0.7	-1.0	-1.3	-1.5	-0.6	-0.4	-0.7	-1.4	-2.8	-2.8	-2.0	-1.5	-3.5	-1.6	-0.4	-1.0	-2.8	-4.0	-3.0	-3.3	-1.6	-0.5	0.3	-0.3	-0.3	1.6
-2.3	-1.5	-0.5	-0.3	-0.7	-0.3	0.2	0.5	0.7	0.9	0.3	0.0	0.5	1.2	1.2	1.6	1.6	1.4	1.1	1.2	1.0	-0.1	-0.0	0.6	2.3	1.6	1.7	1.3	0.7	0.9	1.0	0.2	0.6	1.1	1.5	0.8
-1.9	-1.4	-1.5	-1.3	-0.5	0.5	0.7	0.6	0.8	0.4	0.8	1.5	1.3	1.3	1.2	1.1	1.0	1.4	1.9	2.0	2.0	1.6	2.1	1.5	1.8	2.3	2.1	1.7	1.5	0.9	1.1	0.7	0.3	0.6	1.2	0.5
0.5	0.7	0.3	0.5	0.3	0.0	-0.2	-1.2	-0.0	0.8	1.7	1.7	1.5	1.5	1.6	0.9	1.3	2.0	2.1	2.4	1.9	1.1	2.5	1.7	1.7	1.3	2.1	2.2	2.0	2.2	2.0	1.7	1.0	1.6	1.2	0.5
0.7	0.4	0.6	0.5	0.4	0.5	1.0	0.1	-0.1	-0.5	1.6	1.6	0.6	0.1	0.2	0.2	1.2	2.9	1.8	0.0	0.5	0.2	-0.2	-0.3	0.6	0.9	1.9	1.0	0.9	1.8	1.2	0.7	1.3	1.1	0.4	0.5
-0.6	-0.1	-0.0	-0.2	-0.5	-0.3	0.8	0.9	1.1	-0.4	-1.0	-0.4	-1.3	-1.0	-1.7	-0.9	0.1	-0.1	-0.4	-2.0	-2.0	-1.8	-2.2	-1.7	-0.5	-0.6	-1.0	0.0	-0.7	-1.1	-1.1	-1.7	-1.1	-0.5	-0.7	0.5
0.2	0.6	0.6	0.6	1.0	0.9	1.2	0.8	0.5	0.8	-0.1	-0.3	-0.3	-1.0	-1.5	-1.7	-1.5	-0.7	-0.6	-1.2	-1.8	-1.5	-1.5	-0.7	-0.9	-0.6	-0.6	-0.4	-1.0	-1.9	-1.5	-0.6	-0.9	-1.3	-0.4	1.3
-0.8	-1.0	-1.2	-0.1	0.3	1.1	0.8	1.2	0.6	1.0	0.2	0.3	0.1	-1.4	-1.8	-2.3	-3.0	-3.0	-3.3	-3.5	-4.0	-4.5	-3.9	-3.0	-2.4	-2.5	-2.1	-2.5	-2.7	-1.9	-1.9	-1.1	-1.8	-1.9	-1.6	-0.3
													-3.5	-3.2	-3.2	-4.0	-4.3	-4.6	-4.9	-5.9	-6.9	-8.1	-7.3	-6.3	-6.2	-5.5	-5.0	-3.0							
-1.8	-0.1	-1.1	-0.5	-0.2	0.2	2.0	-0.7	-1.7	-1.6	-0.1	-1.0	-0.7	-1.2	-0.6	-1.3	-1.8	-0.3	-0.1	-1.4	-1.6	-0.8	-0.8	-1.5	-1.1	-2.1	-2.8	-1.9	-2.2	0.1	-0.7	-0.6	-0.6	-0.3	0.1	-0.4
-0.8	-1.6	-1.5	-0.9	-0.3	-0.2	-0.6	-0.6	-0.1	-0.3	-0.3	-1.2	-0.8	-0.8	-1.0	-0.8	-0.7	0.1	0.8	-0.2	-0.4	-0.3	-0.3	0.5	-0.8	-0.4	-0.1	-0.1	-0.1	-0.1	-0.5	0.1	-0.1	-0.1	-0.7	-0.3
-0.8	-1.0	-1.2	-1.2	-1.3	-1.3	-1.6	-1.6	-1.6	-1.5	-0.2	0.1	-0.5	-0.5	-0.6	0.1	1.3	1.0	0.6	0.2	0.9	0.7	-0.6	-1.0	-2.2	-2.8	-2.6	-1.2	-0.5	-0.9	-0.6	0.2	-1.4	-1.7	-1.1	-1.4

Figure 24. SATOB 101 - 400 hPa mean RMS O-B vector differences (ms-1). APRIL 2006
All observations
Values are plotted where greater than 10 obs are present



3.7	3.9	4.4	4.1	4.1	4.1	4.5	4.1	4.2	3.9	4.1	4.4	4.3	4.2	4.3	4.5	4.5	4.0	3.7	3.8	3.8	3.8	3.8	3.9	3.7	3.8	3.7	3.5	3.5	3.6	3.8	3.6	3.6	3.5	3.4	3.6
4.6	4.6	4.7	4.8	4.7	4.6	5.1	4.6	4.3	4.7	4.8	4.4	4.7	4.7	4.6	5.0	5.3	4.8	4.6	4.1	4.2	3.8	4.1	4.0	3.7	3.8	4.2	3.8	4.3	3.9	4.1	3.7	4.2	3.7	4.0	4.3
5.7	4.7	4.1	4.2	5.0	5.0	4.6	4.5	4.4	4.6	4.6	4.7	5.9	4.9	4.2	4.7	6.0	5.7	4.9	4.2	3.9	3.9	4.1	5.9	4.2	6.5	5.6	4.5	3.9	3.7	4.1	4.5	3.6	4.1	3.8	3.8
7.3	8.0	7.6	6.7	6.5	5.9	5.5	5.3	5.1	5.2	5.1	5.0	5.6	5.6	7.7	10.2	11.4	11.1	8.8	8.2	7.2	6.8	8.0	7.6	7.7	8.5	10.2	12.9	9.4							
7.1	6.4	6.3	6.2	5.4	5.5	5.9	5.5	6.0	6.0	5.6	5.8	5.7	5.9	6.4	7.3	7.9	7.7	7.3	7.1	7.0	7.9	7.6	6.4	6.1	7.0	8.0	9.5	10.1	8.9	8.2	7.6	7.3	7.4	8.3	8.9
5.2	4.8	5.2	5.3	5.4	6.0	6.1	5.8	5.8	5.5	5.3	5.4	5.5	6.6	7.1	6.5	7.6	7.8	8.1	8.6	8.1	7.4	8.6	8.8	7.6	8.4	8.8	9.7	11.1	11.1	9.7	9.6	9.2	8.9	7.8	6.8
4.7	4.9	4.6	5.1	5.8	5.4	5.0	5.1	5.0	4.7	5.2	5.3	6.6	8.0	8.1	8.3	8.6	8.5	9.6	9.8	9.5	9.5	10.7	8.4	7.8	8.0	10.4	11.2	10.1	10.1	7.8	7.2	7.4	7.6	6.8	5.3
7.1	6.1	5.5	5.6	5.7	5.7	5.6	5.0	5.0	4.9	4.7	4.5	5.6	6.4	7.2	9.2	9.4	8.0	7.6	7.9	8.7	9.5	7.5	7.6	10.9	8.7	7.6	5.9	5.0	5.2	4.9	3.9	4.2	4.8	5.8	6.4
6.2	6.4	6.6	6.9	6.8	6.8	6.1	6.0	5.8	6.2	5.4	5.3	5.5	5.4	5.6	6.3	6.1	6.3	6.7	6.9	7.1	6.8	7.1	7.8	8.3	6.8	7.2	6.1	5.5	5.5	5.4	4.3	3.9	3.7	4.7	5.4
5.7	5.3	5.9	6.1	6.0	5.9	5.9	7.6	6.7	6.9	5.8	5.4	5.4	5.2	5.1	5.9	7.0	7.4	6.6	6.6	6.5	6.3	6.3	6.5	6.7	6.1	6.5	6.4	6.0	6.0	5.8	4.7	4.1	4.3	4.2	4.6
4.9	5.5	5.0	5.0	5.1	5.3	5.2	6.0	6.5	6.3	5.4	5.2	5.2	5.4	5.7	6.6	9.0	11.4	9.8	6.6	6.6	6.5	6.5	6.2	5.9	6.3	7.5	6.3	6.2	6.2	5.4	4.9	5.6	5.5	5.1	4.6
5.8	5.4	5.1	5.2	5.4	5.2	5.2	5.5	5.7	5.5	5.9	6.5	7.6	7.3	7.3	6.4	6.4	7.4	11.3	10.5	8.8	7.9	8.1	7.2	6.7	8.4	10.8	9.4	10.7	10.5	8.2	7.7	7.4	7.5	7.0	6.0
6.2	5.8	5.8	6.0	6.3	6.5	6.8	6.3	6.1	6.0	5.8	5.6	6.9	8.4	8.8	8.3	7.4	8.5	9.1	10.8	9.5	9.1	8.9	8.7	7.9	7.6	8.2	8.8	9.0	9.5	7.1	7.3	7.5	8.1	8.4	6.5
5.3	5.9	6.2	6.3	6.5	6.4	6.9	7.0	8.0	7.4	6.9	6.2	6.3	8.2	8.7	9.1	10.0	9.4	10.7	11.6	12.0	11.9	11.4	10.8	10.2	9.8	9.5	9.5	9.2	7.8	7.4	6.9	7.7	7.6	8.0	4.9
													8.8	9.2	10.1	11.5	12.4	12.3	12.0	13.1	14.5	15.5	14.6	14.7	13.8	13.3	12.5	9.5							
5.7	5.1	5.4	4.6	4.2	5.0	5.1	6.2	6.0	5.5	5.1	5.6	5.1	5.1	4.9	5.0	5.9	4.8	8.9	6.0	4.7	5.1	5.5	8.7	7.0	7.5	6.6	7.0	6.7	7.8	5.7	5.9	5.3	4.9	4.9	5.0
5.3	5.6	5.5	5.1	5.1	5.6	5.5	5.4	5.4	5.1	5.2	5.6	5.3	4.8	4.9	5.1	5.2	5.0	5.5	5.1	5.1	4.7	4.8	5.1	5.4	5.5	5.4	5.2	5.1	5.1	5.5	5.8	5.4	5.3	5.4	5.8
4.8	4.8	4.9	5.2	5.4	5.2	5.4	5.1	5.5	5.3	4.5	4.5	4.9	4.9	4.6	5.0	4.9	5.0	5.4	5.3	5.4	5.0	4.9	4.8	4.9	4.9	5.0	4.9	4.7	4.8	4.8	5.0	5.0	5.5	5.0	5.0

MONITORING OF SATELLITE TEMPERATURES

MONITORING CENTRE: EXETER

MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from NOAA-15, NOAA-16 and NOAA-17.

Standard of comparison :Background field from UKMO global model.

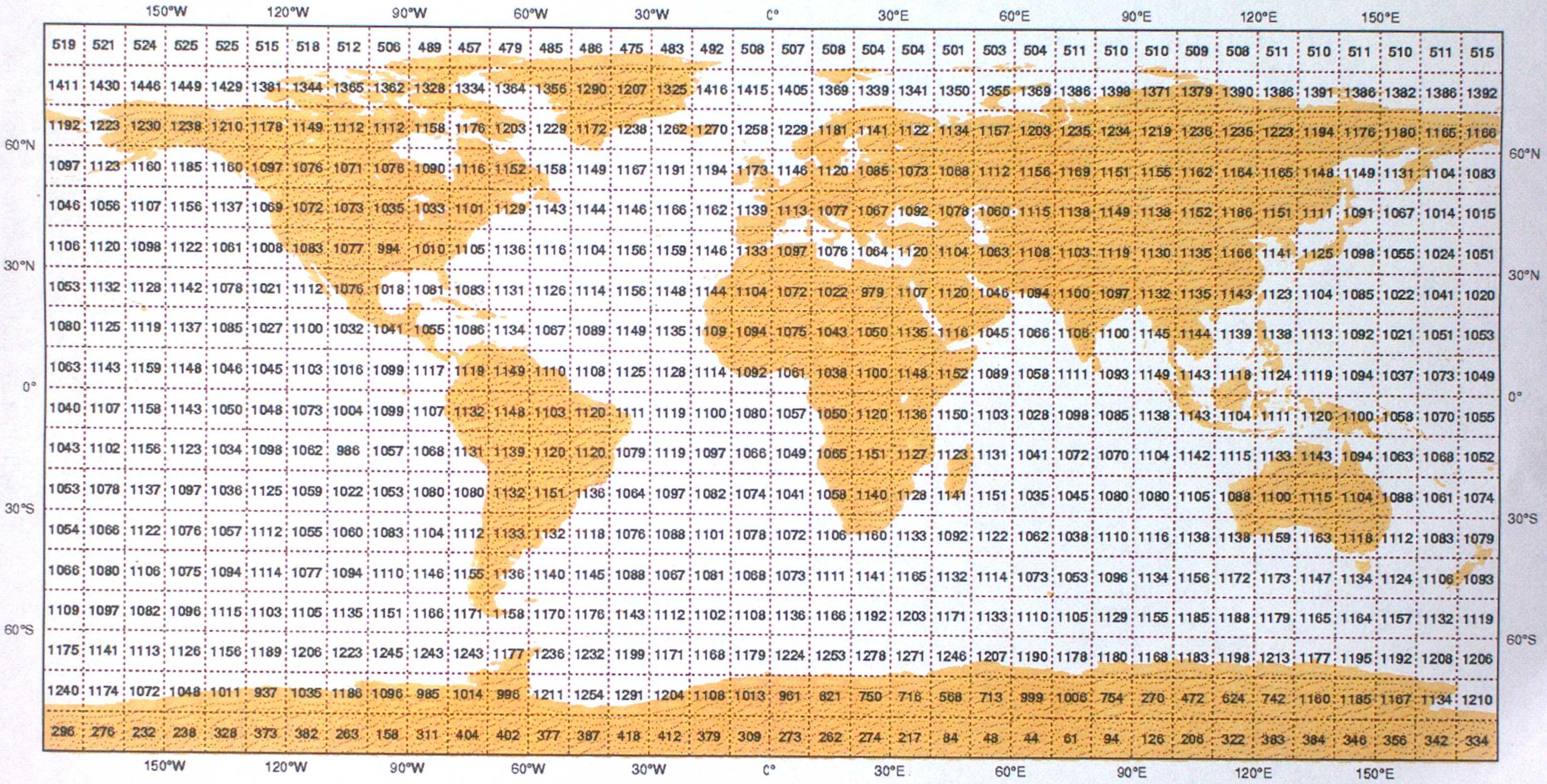
Selection Criteria :All soundings.

Data Extracted :Sounding channels (and approximate weighting function peaks, hPa)

HIRS8 (Surface)
HIRS15 (700)
HIRS11 (500-700)
HIRS4 (400)
AMSUA5 (700)
AMSUA7 (300)
AMSUA9 (100)

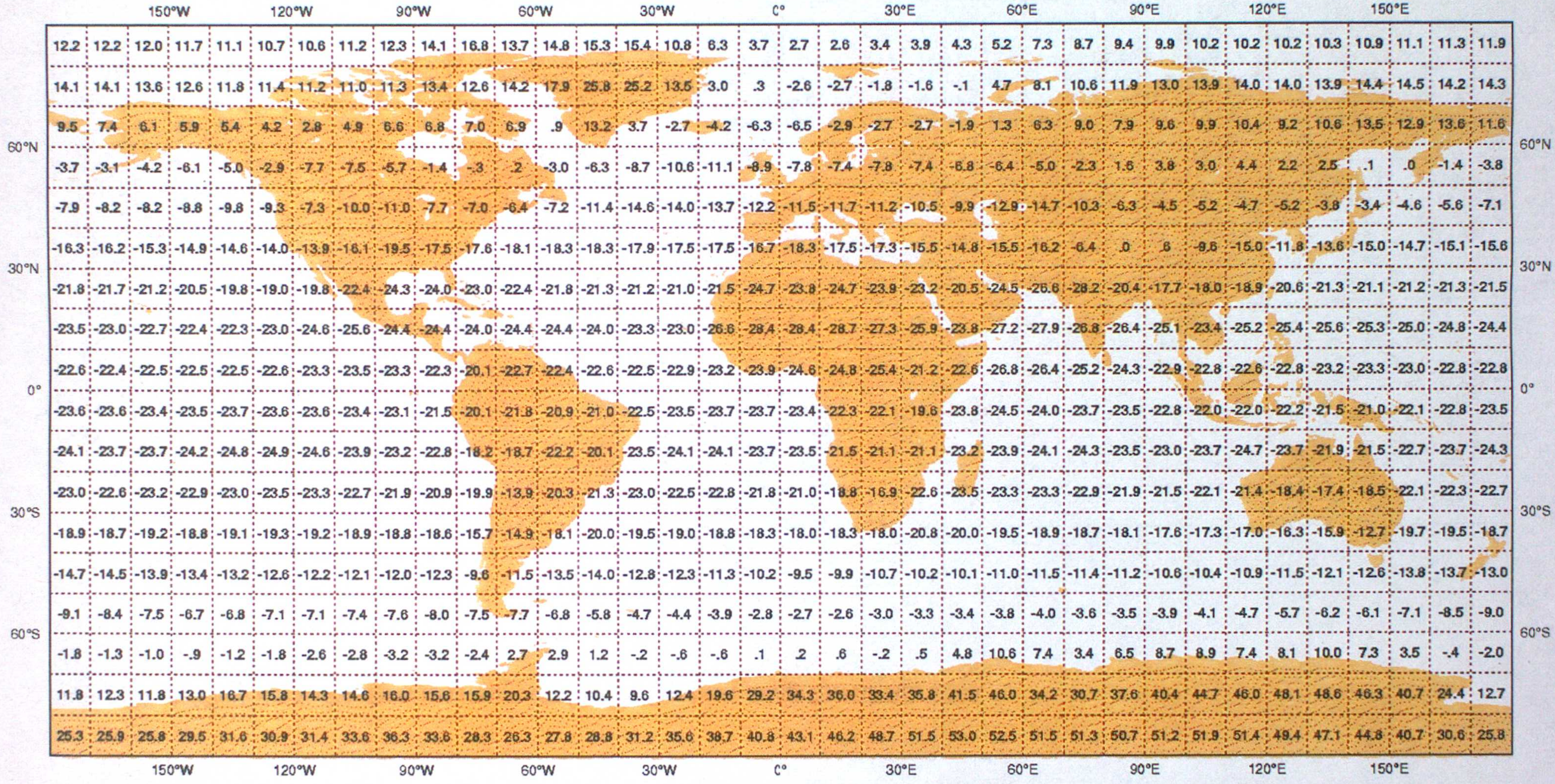
:Mean and standard deviation observation-minus-background brightness temperature differences

Figure 25. ATOVS mean daily count. APRIL 2006
NOAA15, using all observations
Global average number of observations in 24 hours = 676048



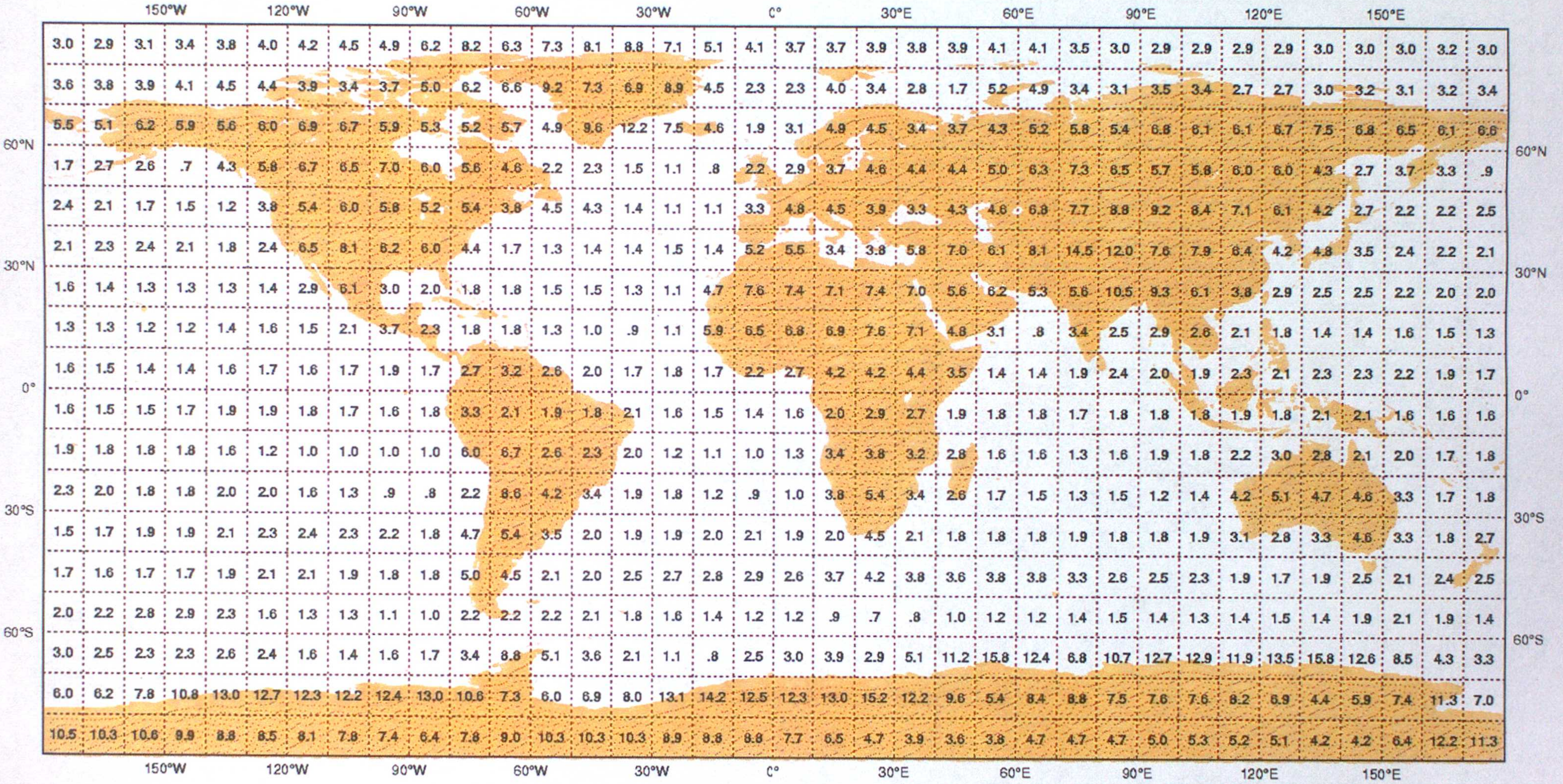
519	521	524	525	525	515	518	512	506	489	457	479	485	486	475	483	492	508	507	508	504	504	501	503	504	511	510	510	509	508	511	510	511	510	511	515
1411	1430	1446	1449	1429	1381	1344	1365	1362	1328	1334	1364	1356	1290	1207	1325	1416	1415	1405	1369	1339	1341	1350	1355	1369	1386	1398	1371	1379	1390	1386	1391	1386	1382	1386	1392
1192	1223	1230	1238	1210	1178	1149	1112	1112	1158	1176	1203	1229	1172	1238	1262	1270	1258	1229	1181	1141	1122	1134	1157	1203	1235	1234	1219	1236	1235	1223	1194	1176	1180	1165	1166
1097	1123	1160	1185	1160	1097	1076	1071	1076	1090	1116	1152	1158	1149	1167	1191	1194	1173	1146	1120	1085	1073	1068	1112	1156	1169	1151	1155	1162	1164	1165	1148	1149	1131	1104	1083
1046	1056	1107	1156	1137	1069	1072	1073	1035	1033	1101	1129	1143	1144	1146	1166	1162	1139	1113	1077	1067	1092	1078	1060	1115	1138	1149	1138	1152	1186	1151	1111	1091	1067	1014	1015
1106	1120	1098	1122	1061	1008	1083	1077	994	1010	1105	1136	1116	1104	1156	1159	1146	1133	1097	1076	1064	1120	1104	1063	1108	1103	1119	1130	1135	1166	1141	1125	1098	1055	1024	1051
1053	1132	1128	1142	1078	1021	1112	1076	1018	1081	1083	1131	1126	1114	1156	1148	1144	1104	1072	1022	979	1107	1120	1046	1094	1100	1097	1132	1135	1143	1123	1104	1085	1022	1041	1020
1080	1125	1119	1137	1085	1027	1100	1032	1041	1055	1086	1134	1067	1089	1149	1135	1109	1094	1075	1043	1050	1135	1116	1045	1066	1106	1100	1145	1144	1139	1138	1113	1092	1021	1051	1053
1063	1143	1159	1148	1046	1045	1103	1016	1099	1117	1119	1149	1110	1108	1125	1128	1114	1092	1061	1038	1100	1148	1152	1089	1058	1111	1093	1149	1143	1118	1124	1119	1094	1037	1073	1049
1040	1107	1158	1143	1050	1048	1073	1004	1099	1107	1132	1148	1103	1120	1111	1119	1100	1080	1057	1050	1120	1136	1150	1103	1028	1098	1085	1138	1143	1104	1111	1120	1100	1058	1070	1055
1043	1102	1156	1123	1034	1098	1062	986	1057	1068	1131	1139	1120	1120	1079	1119	1097	1066	1049	1065	1151	1127	1123	1131	1041	1072	1070	1104	1142	1115	1133	1143	1094	1063	1068	1052
1053	1078	1137	1097	1036	1125	1059	1022	1053	1080	1080	1132	1151	1136	1064	1097	1082	1074	1041	1058	1140	1128	1141	1151	1035	1045	1080	1080	1105	1088	1100	1115	1104	1088	1061	1074
1054	1066	1122	1076	1057	1112	1055	1060	1083	1104	1112	1133	1132	1118	1076	1088	1101	1078	1072	1106	1160	1133	1092	1122	1062	1038	1110	1116	1138	1138	1159	1163	1118	1112	1083	1079
1066	1080	1106	1075	1094	1114	1077	1094	1110	1146	1155	1136	1140	1145	1088	1067	1081	1068	1073	1111	1141	1165	1132	1114	1073	1053	1096	1134	1156	1172	1173	1147	1134	1124	1106	1093
1109	1097	1082	1096	1115	1103	1105	1135	1151	1166	1171	1158	1170	1176	1143	1112	1102	1108	1136	1166	1192	1203	1171	1133	1110	1105	1129	1155	1185	1188	1179	1165	1164	1157	1132	1119
1175	1141	1113	1126	1156	1189	1206	1223	1245	1243	1243	1177	1236	1232	1199	1171	1168	1179	1224	1253	1278	1271	1246	1207	1190	1178	1180	1168	1183	1198	1213	1177	1195	1192	1208	1206
1240	1174	1072	1048	1011	937	1035	1186	1096	985	1014	996	1211	1254	1291	1204	1108	1013	961	821	750	716	568	713	999	1006	754	270	472	624	742	1160	1185	1167	1134	1210
296	276	232	238	328	373	382	263	158	311	404	402	377	387	418	412	379	309	273	262	274	217	84	48	44	61	94	126	206	322	383	384	346	356	342	334

Figure 26. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations



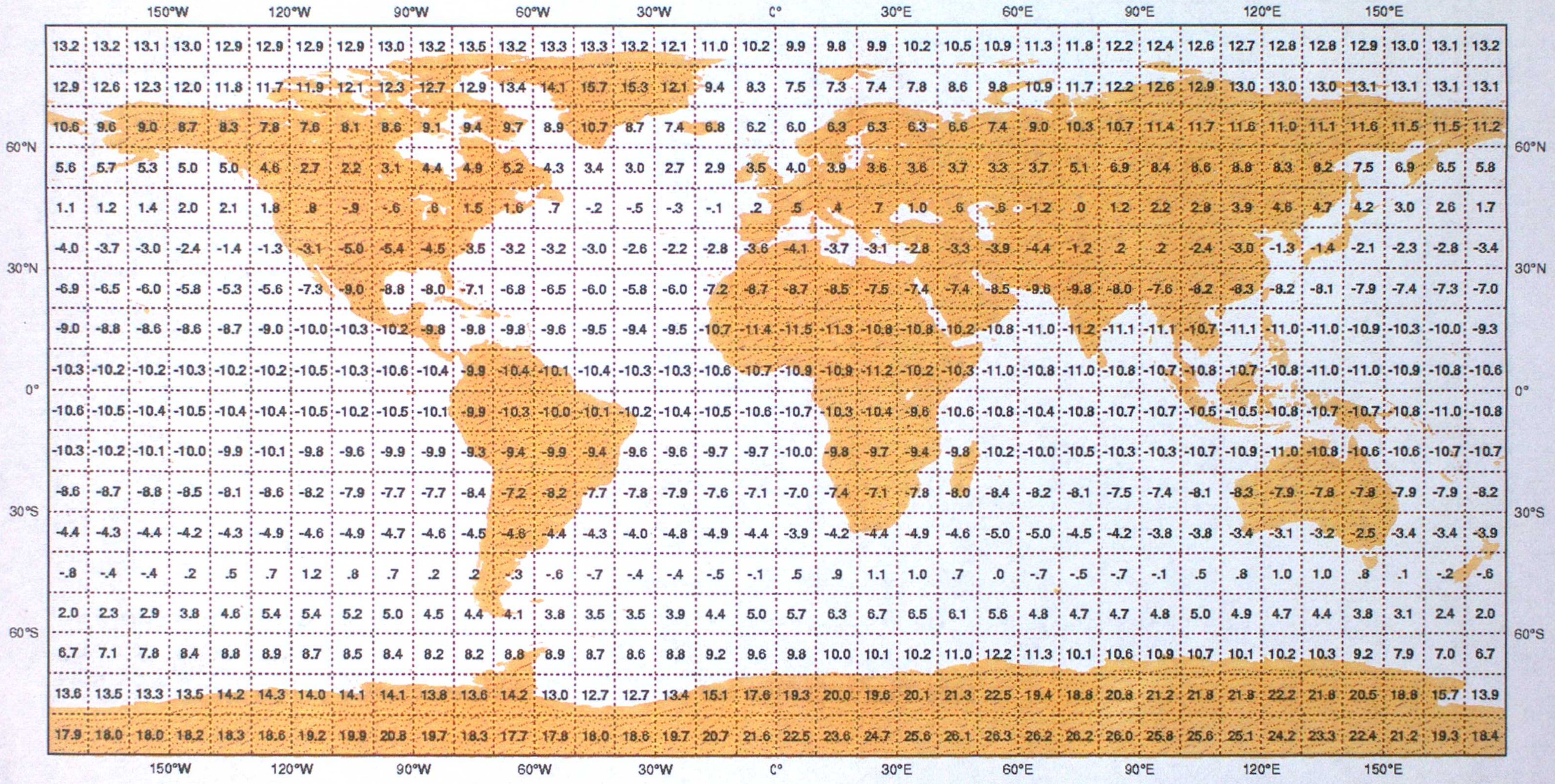
12.2	12.2	12.0	11.7	11.1	10.7	10.6	11.2	12.3	14.1	16.8	13.7	14.8	15.3	15.4	10.8	6.3	3.7	2.7	2.6	3.4	3.9	4.3	5.2	7.3	8.7	9.4	9.9	10.2	10.2	10.2	10.3	10.9	11.1	11.3	11.9
14.1	14.1	13.6	12.6	11.8	11.4	11.2	11.0	11.3	13.4	12.6	14.2	17.9	25.8	25.2	13.5	3.0	.3	-2.6	-2.7	-1.8	-1.6	-.1	4.7	8.1	10.6	11.9	13.0	13.9	14.0	14.0	13.9	14.4	14.5	14.2	14.3
9.5	7.4	6.1	5.9	5.4	4.2	2.8	4.9	6.6	6.8	7.0	6.9	.9	13.2	3.7	-2.7	-4.2	-6.3	-6.5	-2.9	-2.7	-2.7	-1.9	1.3	6.3	9.0	7.9	9.6	9.9	10.4	9.2	10.6	13.5	12.9	13.6	11.6
-3.7	-3.1	-4.2	-6.1	-5.0	-2.9	-7.7	-7.5	-5.7	-1.4	-.3	.2	-3.0	-6.3	-8.7	-10.6	-11.1	-8.9	-7.8	-7.4	-7.8	-7.4	-6.8	-6.4	-5.0	-2.3	1.6	3.8	3.0	4.4	2.2	2.5	.1	.0	-1.4	-3.8
-7.9	-8.2	-8.2	-8.8	-9.8	-9.3	-7.3	-10.0	-11.0	-7.7	-7.0	-6.4	-7.2	-11.4	-14.6	-14.0	-13.7	-12.2	-11.5	-11.7	-11.2	-10.5	-9.9	-12.9	-14.7	-10.3	-6.3	-4.5	-5.2	-4.7	-5.2	-3.8	-3.4	-4.6	-5.6	-7.1
-16.3	-16.2	-15.3	-14.9	-14.6	-14.0	-13.9	-16.1	-19.5	-17.5	-17.6	-18.1	-18.3	-18.3	-17.9	-17.5	-17.5	-16.7	-18.3	-17.5	-17.3	-15.5	-14.8	-15.5	-16.2	-6.4	.0	.6	-9.6	-15.0	-11.8	-13.6	-15.0	-14.7	-15.1	-15.6
-21.8	-21.7	-21.2	-20.5	-19.8	-19.0	-19.8	-22.4	-24.3	-24.0	-23.0	-22.4	-21.8	-21.3	-21.2	-21.0	-21.5	-24.7	-23.8	-24.7	-23.9	-23.2	-20.5	-24.5	-26.6	-28.2	-20.4	-17.7	-18.0	-18.9	-20.6	-21.3	-21.1	-21.2	-21.3	-21.5
-23.5	-23.0	-22.7	-22.4	-22.3	-23.0	-24.6	-25.6	-24.4	-24.4	-24.0	-24.4	-24.4	-24.0	-23.3	-23.0	-26.6	-28.4	-28.4	-28.7	-27.3	-25.9	-23.8	-27.2	-27.9	-26.8	-26.4	-25.1	-23.4	-25.2	-25.4	-25.6	-25.3	-25.0	-24.8	-24.4
-22.6	-22.4	-22.5	-22.5	-22.5	-22.6	-23.3	-23.5	-23.3	-22.3	-20.1	-22.7	-22.4	-22.6	-22.5	-22.9	-23.2	-23.9	-24.6	-24.8	-25.4	-21.2	-22.6	-26.8	-26.4	-25.2	-24.3	-22.9	-22.8	-22.6	-22.8	-23.2	-23.3	-23.0	-22.8	-22.8
-23.6	-23.6	-23.4	-23.5	-23.7	-23.6	-23.6	-23.4	-23.1	-21.5	-20.1	-21.8	-20.9	-21.0	-22.5	-23.5	-23.7	-23.7	-23.4	-22.3	-22.1	-19.6	-23.8	-24.5	-24.0	-23.7	-23.5	-22.8	-22.0	-22.0	-22.2	-21.5	-21.0	-22.1	-22.8	-23.5
-24.1	-23.7	-23.7	-24.2	-24.8	-24.9	-24.6	-23.9	-23.2	-22.8	-18.2	-18.7	-22.2	-20.1	-23.5	-24.1	-24.1	-23.7	-23.5	-21.5	-21.1	-21.1	-23.2	-23.9	-24.1	-24.3	-23.5	-23.0	-23.7	-24.7	-23.7	-21.9	-21.5	-22.7	-23.7	-24.3
-23.0	-22.6	-23.2	-22.9	-23.0	-23.5	-23.3	-22.7	-21.9	-20.9	-19.9	-13.9	-20.3	-21.3	-23.0	-22.5	-22.8	-21.8	-21.0	-18.8	-16.9	-22.6	-23.5	-23.3	-23.3	-22.9	-21.9	-21.5	-22.1	-21.4	-18.4	-17.4	-18.5	-22.1	-22.3	-22.7
-18.9	-18.7	-19.2	-18.8	-19.1	-19.3	-19.2	-18.9	-18.8	-18.6	-15.7	-14.9	-18.1	-20.0	-19.5	-19.0	-18.8	-18.3	-18.0	-18.3	-18.0	-20.8	-20.0	-19.5	-18.9	-18.7	-18.1	-17.6	-17.3	-17.0	-16.3	-15.9	-12.7	-19.7	-19.5	-18.7
-14.7	-14.5	-13.9	-13.4	-13.2	-12.6	-12.2	-12.1	-12.0	-12.3	-9.6	-11.5	-13.5	-14.0	-12.8	-12.3	-11.3	-10.2	-9.5	-9.9	-10.7	-10.2	-10.1	-11.0	-11.5	-11.4	-11.2	-10.6	-10.4	-10.9	-11.5	-12.1	-12.6	-13.8	-13.7	-13.0
-9.1	-8.4	-7.5	-6.7	-6.8	-7.1	-7.1	-7.4	-7.6	-8.0	-7.5	-7.7	-6.8	-5.8	-4.7	-4.4	-3.9	-2.8	-2.7	-2.6	-3.0	-3.3	-3.4	-3.8	-4.0	-3.6	-3.5	-3.9	-4.1	-4.7	-5.7	-6.2	-6.1	-7.1	-8.5	-9.0
-1.8	-1.3	-1.0	-.9	-1.2	-1.8	-2.6	-2.8	-3.2	-3.2	-2.4	2.7	2.9	1.2	-.2	-.6	-.6	.1	.2	.6	-.2	.5	4.8	10.6	7.4	3.4	6.5	8.7	8.9	7.4	8.1	10.0	7.3	3.5	-.4	-2.0
11.8	12.3	11.8	13.0	16.7	15.8	14.3	14.6	16.0	15.6	15.9	20.3	12.2	10.4	9.6	12.4	19.6	29.2	34.3	36.0	33.4	35.8	41.5	46.0	34.2	30.7	37.6	40.4	44.7	46.0	48.1	48.6	46.3	40.7	24.4	12.7
25.3	25.9	25.8	29.5	31.6	30.9	31.4	33.6	36.3	33.6	28.3	26.3	27.8	28.8	31.2	35.6	38.7	40.8	43.1	46.2	48.7	51.5	53.0	52.5	51.5	51.3	50.7	51.2	51.9	51.4	49.4	47.1	44.8	40.7	30.6	25.8

Figure 27. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS8 (Surface)
NOAA15, using all observations



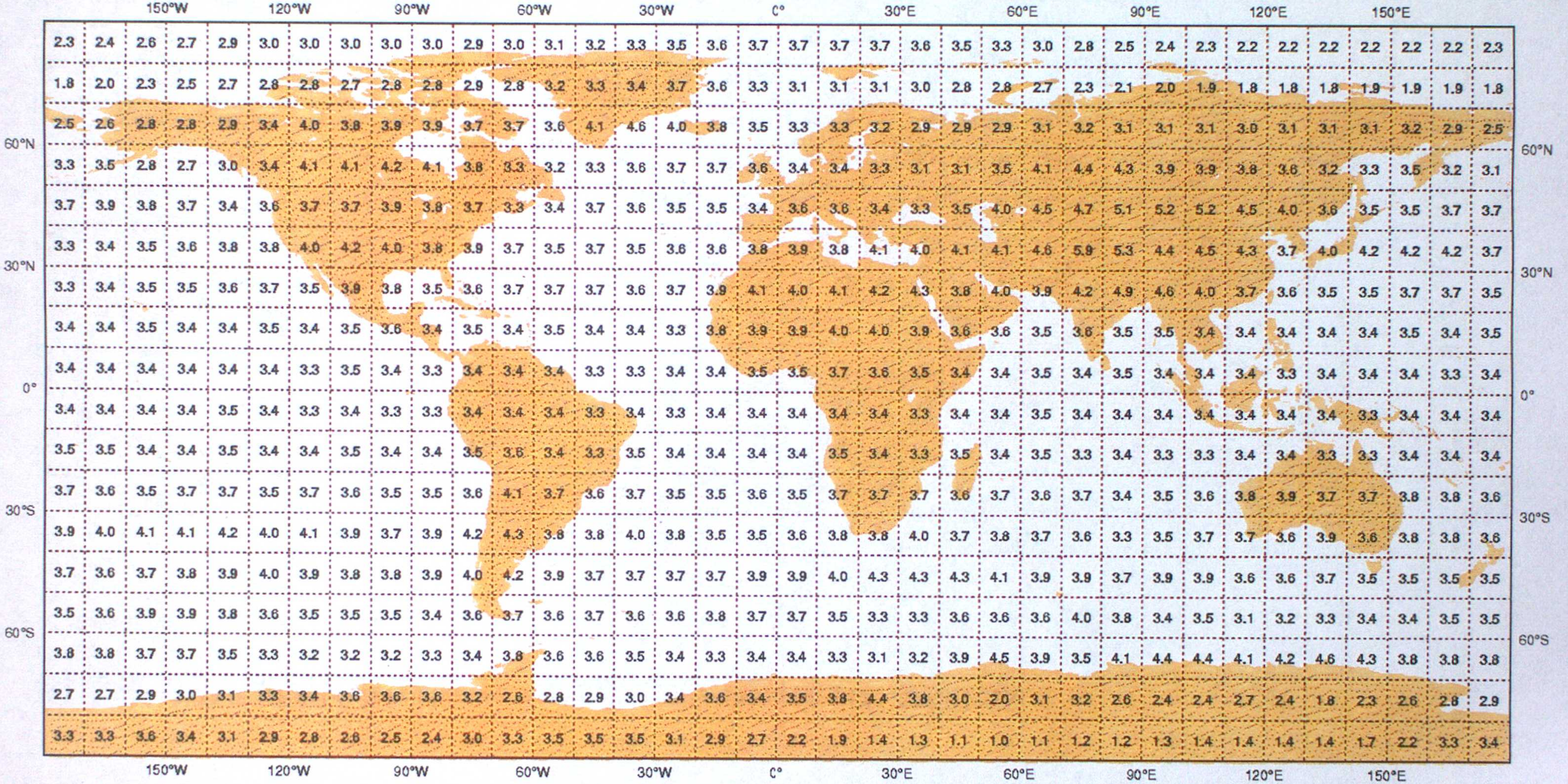
3.0	2.9	3.1	3.4	3.8	4.0	4.2	4.5	4.9	6.2	8.2	6.3	7.3	8.1	8.8	7.1	5.1	4.1	3.7	3.7	3.9	3.8	3.9	4.1	4.1	3.5	3.0	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.2	3.0
3.6	3.8	3.9	4.1	4.5	4.4	3.9	3.4	3.7	5.0	6.2	6.6	9.2	7.3	6.9	8.9	4.5	2.3	2.3	4.0	3.4	2.8	1.7	5.2	4.9	3.4	3.1	3.5	3.4	2.7	2.7	3.0	3.2	3.1	3.2	3.4
5.5	5.1	6.2	5.9	5.6	6.0	6.9	6.7	5.9	5.3	5.2	5.7	4.9	9.6	12.2	7.5	4.6	1.9	3.1	4.9	4.5	3.4	3.7	4.3	5.2	5.8	5.4	6.8	6.1	6.1	6.7	7.5	6.8	6.5	6.1	6.6
1.7	2.7	2.6	.7	4.3	5.8	6.7	6.5	7.0	6.0	5.6	4.6	2.2	2.3	1.5	1.1	.8	2.2	2.9	3.7	4.6	4.4	4.4	5.0	6.3	7.3	6.5	5.7	5.8	6.0	6.0	4.3	2.7	3.7	3.3	.9
2.4	2.1	1.7	1.5	1.2	3.8	5.4	6.0	5.8	5.2	5.4	3.8	4.5	4.3	1.4	1.1	1.1	3.3	4.8	4.5	3.9	3.3	4.3	4.6	6.8	7.7	8.8	9.2	8.4	7.1	6.1	4.2	2.7	2.2	2.2	2.5
2.1	2.3	2.4	2.1	1.8	2.4	6.5	8.1	6.2	6.0	4.4	1.7	1.3	1.4	1.4	1.5	1.4	5.2	5.5	3.4	3.8	5.8	7.0	6.1	8.1	14.5	12.0	7.6	7.9	6.4	4.2	4.8	3.5	2.4	2.2	2.1
1.6	1.4	1.3	1.3	1.3	1.4	2.9	6.1	3.0	2.0	1.8	1.8	1.5	1.5	1.3	1.1	4.7	7.6	7.4	7.1	7.4	7.0	5.6	6.2	5.3	5.6	10.5	9.3	6.1	3.8	2.9	2.5	2.5	2.2	2.0	2.0
1.3	1.3	1.2	1.2	1.4	1.6	1.5	2.1	3.7	2.3	1.8	1.8	1.3	1.0	.9	1.1	5.9	6.5	6.8	6.9	7.6	7.1	4.8	3.1	.8	3.4	2.5	2.9	2.6	2.1	1.8	1.4	1.4	1.6	1.5	1.3
1.6	1.5	1.4	1.4	1.6	1.7	1.6	1.7	1.9	1.7	2.7	3.2	2.6	2.0	1.7	1.8	1.7	2.2	2.7	4.2	4.2	4.4	3.5	1.4	1.4	1.9	2.4	2.0	1.9	2.3	2.1	2.3	2.3	2.2	1.9	1.7
1.6	1.5	1.5	1.7	1.9	1.9	1.8	1.7	1.6	1.8	3.3	2.1	1.9	1.8	2.1	1.6	1.5	1.4	1.6	2.0	2.9	2.7	1.9	1.8	1.8	1.7	1.8	1.8	1.8	1.9	1.8	2.1	2.1	1.6	1.6	1.6
1.9	1.8	1.8	1.8	1.6	1.2	1.0	1.0	1.0	1.0	6.0	6.7	2.6	2.3	2.0	1.2	1.1	1.0	1.3	3.4	3.8	3.2	2.8	1.6	1.6	1.3	1.6	1.9	1.8	2.2	3.0	2.8	2.1	2.0	1.7	1.8
2.3	2.0	1.8	1.8	2.0	2.0	1.6	1.3	.9	.8	2.2	8.6	4.2	3.4	1.9	1.8	1.2	.9	1.0	3.8	5.4	3.4	2.6	1.7	1.5	1.3	1.5	1.2	1.4	4.2	5.1	4.7	4.6	3.3	1.7	1.8
1.5	1.7	1.9	1.9	2.1	2.3	2.4	2.3	2.2	1.8	4.7	5.4	3.5	2.0	1.9	1.9	2.0	2.1	1.9	2.0	4.5	2.1	1.8	1.8	1.8	1.9	1.8	1.8	1.9	3.1	2.8	3.3	4.6	3.3	1.8	2.7
1.7	1.6	1.7	1.7	1.9	2.1	2.1	1.9	1.8	1.8	5.0	4.5	2.1	2.0	2.5	2.7	2.8	2.9	2.6	3.7	4.2	3.8	3.6	3.8	3.8	3.3	2.6	2.5	2.3	1.9	1.7	1.9	2.5	2.1	2.4	2.5
2.0	2.2	2.8	2.9	2.3	1.6	1.3	1.3	1.1	1.0	2.2	2.2	2.2	2.1	1.8	1.6	1.4	1.2	1.2	.9	.7	.8	1.0	1.2	1.2	1.4	1.5	1.4	1.3	1.4	1.5	1.4	1.9	2.1	1.9	1.4
3.0	2.5	2.3	2.3	2.6	2.4	1.6	1.4	1.6	1.7	3.4	8.8	5.1	3.6	2.1	1.1	.8	2.5	3.0	3.9	2.9	5.1	11.2	15.8	12.4	6.8	10.7	12.7	12.9	11.9	13.5	15.8	12.6	8.5	4.3	3.3
6.0	6.2	7.8	10.8	13.0	12.7	12.3	12.2	12.4	13.0	10.6	7.3	6.0	6.9	8.0	13.1	14.2	12.5	12.3	13.0	15.2	12.2	9.6	5.4	8.4	8.8	7.5	7.6	7.6	8.2	6.9	4.4	5.9	7.4	11.3	7.0
10.5	10.3	10.6	9.9	8.8	8.5	8.1	7.8	7.4	6.4	7.8	9.0	10.3	10.3	10.3	8.9	8.8	8.8	7.7	6.5	4.7	3.9	3.6	3.8	4.7	4.7	4.7	5.0	5.3	5.2	5.1	4.2	4.2	6.4	12.2	11.3

Figure 28. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



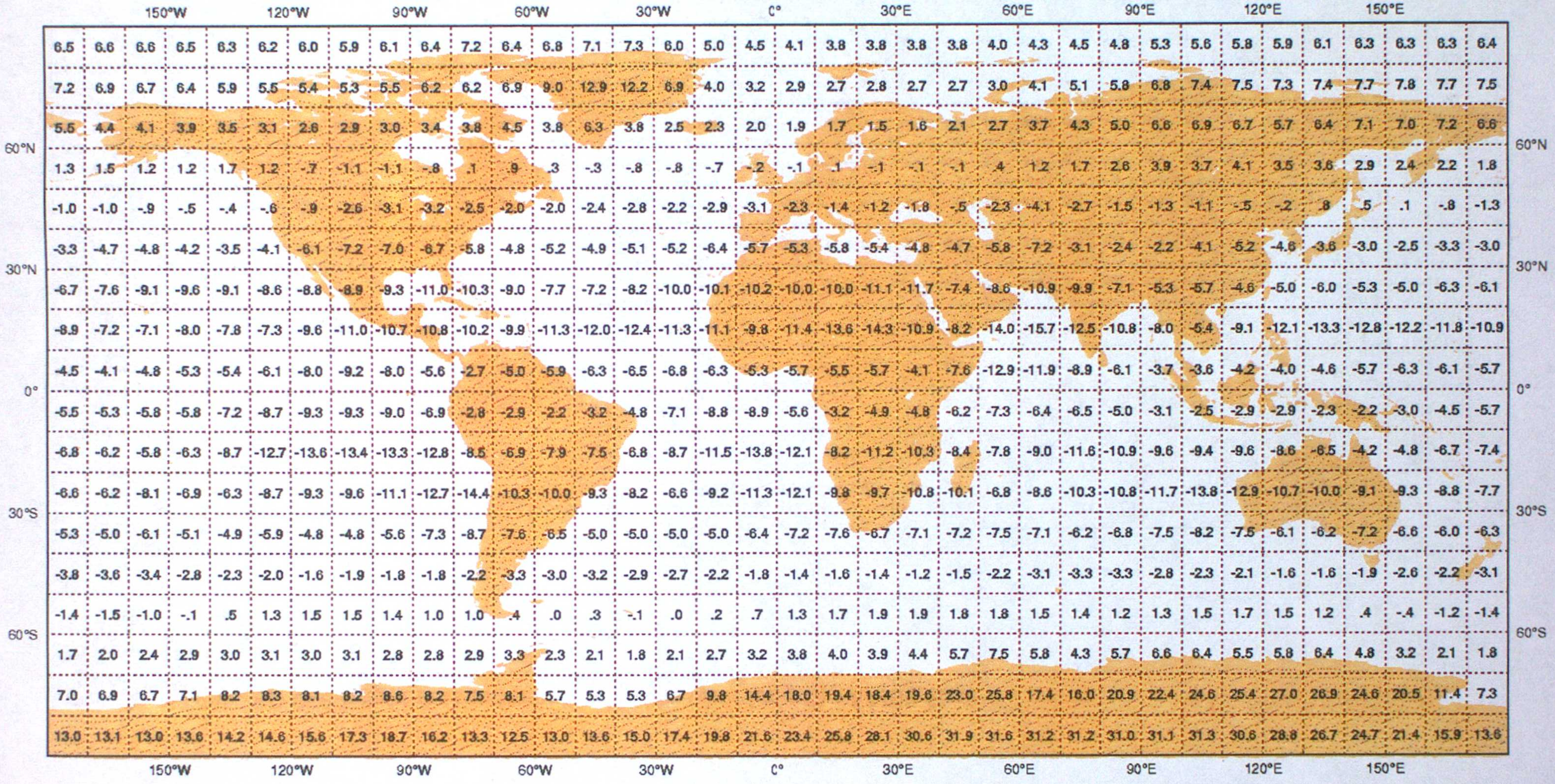
13.2	13.2	13.1	13.0	12.9	12.9	12.9	12.9	13.0	13.2	13.5	13.2	13.3	13.3	13.2	12.1	11.0	10.2	9.9	9.8	9.9	10.2	10.5	10.9	11.3	11.8	12.2	12.4	12.6	12.7	12.8	12.8	12.9	13.0	13.1	13.2
12.9	12.6	12.3	12.0	11.8	11.7	11.9	12.1	12.3	12.7	12.9	13.4	14.1	15.7	15.3	12.1	9.4	8.3	7.5	7.3	7.4	7.8	8.6	9.8	10.9	11.7	12.2	12.6	12.9	13.0	13.0	13.0	13.1	13.1	13.1	13.1
10.6	9.6	9.0	8.7	8.3	7.8	7.6	8.1	8.6	9.1	9.4	9.7	8.9	10.7	8.7	7.4	6.8	6.2	6.0	6.3	6.3	6.3	6.6	7.4	9.0	10.3	10.7	11.4	11.7	11.6	11.0	11.1	11.6	11.5	11.5	11.2
5.6	5.7	5.3	5.0	5.0	4.6	2.7	2.2	3.1	4.4	4.9	5.2	4.3	3.4	3.0	2.7	2.9	3.5	4.0	3.9	3.6	3.6	3.7	3.3	3.7	5.1	6.9	8.4	8.6	8.8	8.3	8.2	7.5	6.9	6.5	5.8
1.1	1.2	1.4	2.0	2.1	1.8	.8	-.9	-.6	.6	1.5	1.6	.7	-.2	-.5	-.3	-.1	.2	.5	.4	.7	1.0	.6	-.6	-1.2	.0	1.2	2.2	2.8	3.9	4.6	4.7	4.2	3.0	2.6	1.7
-4.0	-3.7	-3.0	-2.4	-1.4	-1.3	-3.1	-5.0	-5.4	-4.5	-3.5	-3.2	-3.2	-3.0	-2.6	-2.2	-2.8	-3.6	-4.1	-3.7	-3.1	-2.8	-3.3	-3.9	-4.4	-1.2	.2	.2	-2.4	-3.0	-1.3	-1.4	-2.1	-2.3	-2.8	-3.4
-6.9	-6.5	-6.0	-5.8	-5.3	-5.6	-7.3	-9.0	-8.8	-8.0	-7.1	-6.8	-6.5	-6.0	-5.8	-6.0	-7.2	-8.7	-8.7	-8.5	-7.5	-7.4	-7.4	-8.5	-9.6	-9.8	-8.0	-7.6	-8.2	-8.3	-8.2	-8.1	-7.9	-7.4	-7.3	-7.0
-9.0	-8.8	-8.6	-8.6	-8.7	-9.0	-10.0	-10.3	-10.2	-9.8	-9.8	-9.8	-9.6	-9.5	-9.4	-9.5	-10.7	-11.4	-11.5	-11.3	-10.8	-10.8	-10.2	-10.8	-11.0	-11.2	-11.1	-11.1	-10.7	-11.1	-11.0	-11.0	-10.9	-10.3	-10.0	-9.3
-10.3	-10.2	-10.2	-10.3	-10.2	-10.2	-10.5	-10.3	-10.6	-10.4	-9.9	-10.4	-10.1	-10.4	-10.3	-10.3	-10.6	-10.7	-10.9	-10.9	-11.2	-10.2	-10.3	-11.0	-10.8	-11.0	-10.8	-10.7	-10.8	-10.7	-10.8	-11.0	-11.0	-10.9	-10.8	-10.6
-10.6	-10.5	-10.4	-10.5	-10.4	-10.4	-10.5	-10.2	-10.5	-10.1	-9.9	-10.3	-10.0	-10.1	-10.2	-10.4	-10.5	-10.6	-10.7	-10.3	-10.4	-9.6	-10.6	-10.8	-10.4	-10.8	-10.7	-10.7	-10.5	-10.5	-10.8	-10.7	-10.7	-10.8	-11.0	-10.8
-10.3	-10.2	-10.1	-10.0	-9.9	-10.1	-9.8	-9.6	-9.9	-9.9	-9.3	-9.4	-9.9	-9.4	-9.6	-9.6	-9.7	-9.7	-10.0	-9.8	-9.7	-9.4	-9.8	-10.2	-10.0	-10.5	-10.3	-10.3	-10.7	-10.9	-11.0	-10.8	-10.6	-10.6	-10.7	-10.7
-8.6	-8.7	-8.8	-8.5	-8.1	-8.6	-8.2	-7.9	-7.7	-7.7	-8.4	-7.2	-8.2	-7.7	-7.8	-7.9	-7.6	-7.1	-7.0	-7.4	-7.1	-7.8	-8.0	-8.4	-8.2	-8.1	-7.5	-7.4	-8.1	-8.3	-7.9	-7.8	-7.8	-7.9	-7.9	-8.2
-4.4	-4.3	-4.4	-4.2	-4.3	-4.9	-4.6	-4.9	-4.7	-4.6	-4.5	-4.8	-4.4	-4.3	-4.0	-4.8	-4.9	-4.4	-3.9	-4.2	-4.4	-4.9	-4.6	-5.0	-5.0	-4.5	-4.2	-3.8	-3.8	-3.4	-3.1	-3.2	-2.5	-3.4	-3.4	-3.9
-.8	-.4	-.4	.2	.5	.7	1.2	.8	.7	.2	.2	-.3	-.6	-.7	-.4	-.4	-.5	-.1	.5	.9	1.1	1.0	.7	.0	-.7	-.5	-.7	-.1	.5	.8	1.0	1.0	.8	.1	-.2	-.6
2.0	2.3	2.9	3.8	4.6	5.4	5.4	5.2	5.0	4.5	4.4	4.1	3.8	3.5	3.5	3.9	4.4	5.0	5.7	6.3	6.7	6.5	6.1	5.6	4.8	4.7	4.7	4.8	5.0	4.9	4.7	4.4	3.8	3.1	2.4	2.0
6.7	7.1	7.8	8.4	8.8	8.9	8.7	8.5	8.4	8.2	8.2	8.8	8.9	8.7	8.6	8.8	9.2	9.6	9.8	10.0	10.1	10.2	11.0	12.2	11.3	10.1	10.6	10.9	10.7	10.1	10.2	10.3	9.2	7.9	7.0	6.7
13.6	13.5	13.3	13.5	14.2	14.3	14.0	14.1	14.1	13.8	13.6	14.2	13.0	12.7	12.7	13.4	15.1	17.6	19.3	20.0	19.6	20.1	21.3	22.5	19.4	18.8	20.8	21.2	21.8	21.8	22.2	21.8	20.5	18.8	15.7	13.9
17.9	18.0	18.0	18.2	18.3	18.6	19.2	19.9	20.8	19.7	18.3	17.7	17.8	18.0	18.6	19.7	20.7	21.6	22.5	23.6	24.7	25.6	26.1	26.3	26.2	26.2	26.0	25.8	25.6	25.1	24.2	23.3	22.4	21.2	19.3	18.4

Figure 29. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS15 (700 hPa)
NOAA15, using all observations



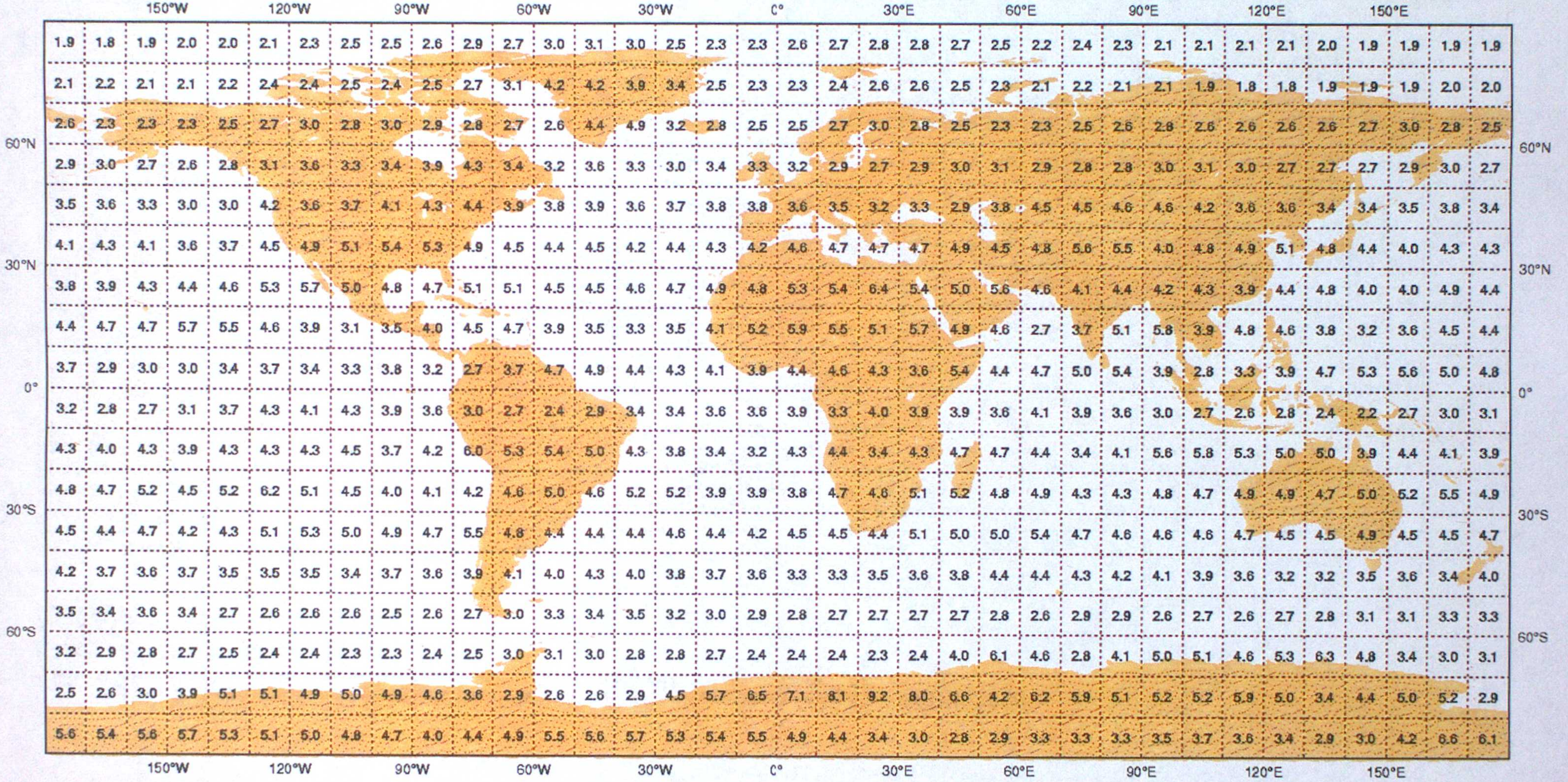
2.3	2.4	2.6	2.7	2.9	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.1	3.2	3.3	3.5	3.6	3.7	3.7	3.7	3.7	3.6	3.5	3.3	3.0	2.8	2.5	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.3
1.8	2.0	2.3	2.5	2.7	2.8	2.8	2.7	2.8	2.8	2.9	2.8	3.2	3.3	3.4	3.7	3.6	3.3	3.1	3.1	3.1	3.0	2.8	2.8	2.7	2.3	2.1	2.0	1.9	1.8	1.8	1.8	1.9	1.9	1.9	1.8
2.5	2.6	2.8	2.8	2.9	3.4	4.0	3.8	3.9	3.9	3.7	3.7	3.6	4.1	4.6	4.0	3.8	3.5	3.3	3.3	3.2	2.9	2.9	2.9	3.1	3.2	3.1	3.1	3.1	3.0	3.1	3.1	3.1	3.2	2.9	2.5
3.3	3.5	2.8	2.7	3.0	3.4	4.1	4.1	4.2	4.1	3.8	3.3	3.2	3.3	3.6	3.7	3.7	3.6	3.4	3.4	3.3	3.1	3.1	3.5	4.1	4.4	4.3	3.9	3.9	3.8	3.6	3.2	3.3	3.5	3.2	3.1
3.7	3.9	3.8	3.7	3.4	3.6	3.7	3.7	3.9	3.8	3.7	3.3	3.4	3.7	3.6	3.5	3.5	3.4	3.6	3.6	3.4	3.3	3.5	4.0	4.5	4.7	5.1	5.2	5.2	4.5	4.0	3.6	3.5	3.5	3.7	3.7
3.3	3.4	3.5	3.6	3.8	3.8	4.0	4.2	4.0	3.8	3.9	3.7	3.5	3.7	3.5	3.6	3.6	3.8	3.9	3.8	4.1	4.0	4.1	4.1	4.6	5.9	5.3	4.4	4.5	4.3	3.7	4.0	4.2	4.2	4.2	3.7
3.3	3.4	3.5	3.5	3.6	3.7	3.5	3.9	3.8	3.5	3.6	3.7	3.7	3.7	3.6	3.7	3.9	4.1	4.0	4.1	4.2	4.3	3.8	4.0	3.9	4.2	4.9	4.6	4.0	3.7	3.6	3.5	3.5	3.7	3.7	3.5
3.4	3.4	3.5	3.4	3.4	3.5	3.4	3.5	3.6	3.4	3.5	3.4	3.5	3.4	3.4	3.3	3.8	3.9	3.9	4.0	4.0	3.9	3.6	3.6	3.5	3.6	3.5	3.5	3.4	3.4	3.4	3.4	3.4	3.5	3.4	3.5
3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.5	3.4	3.3	3.4	3.4	3.4	3.3	3.3	3.4	3.4	3.5	3.5	3.7	3.6	3.5	3.4	3.4	3.5	3.4	3.5	3.4	3.4	3.4	3.3	3.4	3.4	3.4	3.3	3.4
3.4	3.4	3.4	3.4	3.5	3.4	3.3	3.4	3.3	3.3	3.4	3.4	3.4	3.3	3.4	3.3	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.5	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.4
3.5	3.5	3.4	3.4	3.5	3.4	3.4	3.5	3.4	3.4	3.5	3.6	3.4	3.3	3.5	3.4	3.4	3.4	3.4	3.5	3.4	3.3	3.5	3.4	3.5	3.3	3.4	3.3	3.3	3.4	3.4	3.3	3.3	3.4	3.4	3.4
3.7	3.6	3.5	3.7	3.7	3.5	3.7	3.6	3.5	3.5	3.6	4.1	3.7	3.6	3.7	3.5	3.5	3.6	3.5	3.7	3.7	3.7	3.6	3.7	3.6	3.7	3.4	3.5	3.6	3.8	3.9	3.7	3.7	3.8	3.8	3.6
3.9	4.0	4.1	4.1	4.2	4.0	4.1	3.9	3.7	3.9	4.2	4.3	3.8	3.8	4.0	3.8	3.5	3.5	3.6	3.8	3.8	4.0	3.7	3.8	3.7	3.6	3.3	3.5	3.7	3.7	3.6	3.9	3.6	3.8	3.8	3.6
3.7	3.6	3.7	3.8	3.9	4.0	3.9	3.8	3.8	3.9	4.0	4.2	3.9	3.7	3.7	3.7	3.7	3.9	3.9	4.0	4.3	4.3	4.3	4.1	3.9	3.9	3.7	3.9	3.9	3.6	3.6	3.7	3.5	3.5	3.5	3.5
3.5	3.6	3.9	3.9	3.8	3.6	3.5	3.5	3.5	3.4	3.6	3.7	3.6	3.7	3.6	3.6	3.8	3.7	3.7	3.5	3.3	3.3	3.6	3.6	3.6	4.0	3.8	3.4	3.5	3.1	3.2	3.3	3.4	3.4	3.5	3.5
3.8	3.8	3.7	3.7	3.5	3.3	3.2	3.2	3.2	3.3	3.4	3.8	3.6	3.6	3.5	3.4	3.3	3.4	3.4	3.3	3.1	3.2	3.9	4.5	3.9	3.5	4.1	4.4	4.4	4.1	4.2	4.6	4.3	3.8	3.8	3.8
2.7	2.7	2.9	3.0	3.1	3.3	3.4	3.6	3.6	3.6	3.2	2.6	2.8	2.9	3.0	3.4	3.6	3.4	3.5	3.8	4.4	3.8	3.0	2.0	3.1	3.2	2.6	2.4	2.4	2.7	2.4	1.8	2.3	2.6	2.8	2.9
3.3	3.3	3.6	3.4	3.1	2.9	2.8	2.6	2.5	2.4	3.0	3.3	3.5	3.5	3.5	3.1	2.9	2.7	2.2	1.9	1.4	1.3	1.1	1.0	1.1	1.2	1.2	1.3	1.4	1.4	1.4	1.4	1.7	2.2	3.3	3.4

Figure 30. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



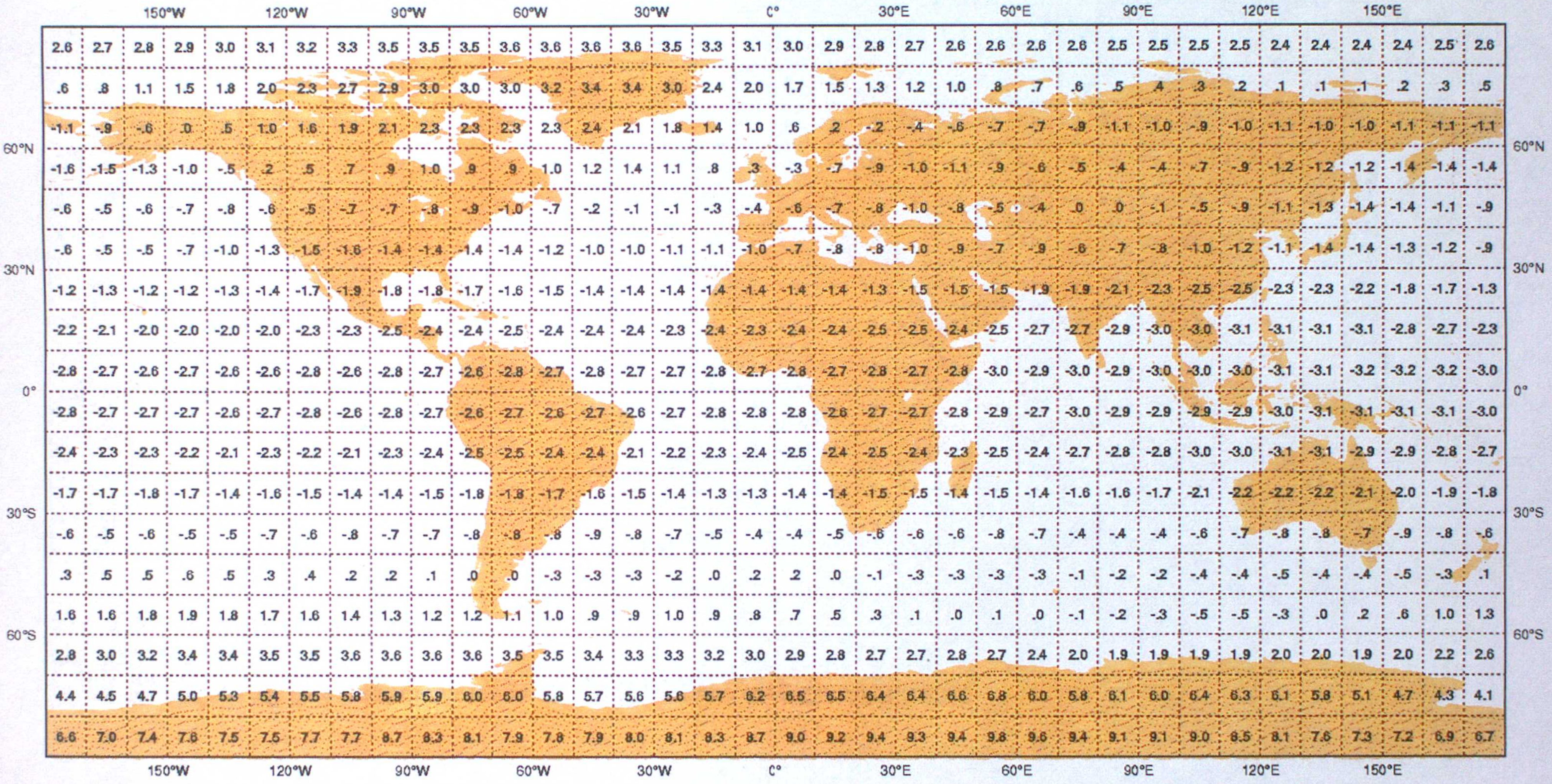
6.5	6.6	6.6	6.5	6.3	6.2	6.0	5.9	6.1	6.4	7.2	6.4	6.8	7.1	7.3	6.0	5.0	4.5	4.1	3.8	3.8	3.8	3.8	4.0	4.3	4.5	4.8	5.3	5.6	5.8	5.9	6.1	6.3	6.3	6.3	6.4
7.2	6.9	6.7	6.4	5.9	5.5	5.4	5.3	5.5	6.2	6.2	6.9	9.0	12.9	12.2	6.9	4.0	3.2	2.9	2.7	2.8	2.7	2.7	3.0	4.1	5.1	5.8	6.8	7.4	7.5	7.3	7.4	7.7	7.8	7.7	7.5
5.5	4.4	4.1	3.9	3.5	3.1	2.6	2.9	3.0	3.4	3.8	4.5	3.8	6.3	3.8	2.5	2.3	2.0	1.9	1.7	1.5	1.6	2.1	2.7	3.7	4.3	5.0	6.6	6.9	6.7	5.7	6.4	7.1	7.0	7.2	6.6
1.3	1.5	1.2	1.2	1.7	1.2	-.7	-1.1	-1.1	-.8	.1	.9	.3	-.3	-.8	-.8	-.7	-.2	-.1	.1	-.1	-.1	-.1	.4	1.2	1.7	2.6	3.9	3.7	4.1	3.5	3.6	2.9	2.4	2.2	1.8
-1.0	-1.0	-.9	-.5	-.4	-.6	-.9	-2.6	-3.1	-3.2	-2.5	-2.0	-2.0	-2.4	-2.8	-2.2	-2.9	-3.1	-2.3	-1.4	-1.2	-1.8	-.5	-2.3	-4.1	-2.7	-1.5	-1.3	-1.1	-.5	-.2	.8	.5	.1	-.8	-1.3
-3.3	-4.7	-4.8	-4.2	-3.5	-4.1	-6.1	-7.2	-7.0	-6.7	-5.8	-4.8	-5.2	-4.9	-5.1	-5.2	-6.4	-5.7	-5.3	-5.8	-5.4	-4.8	-4.7	-5.8	-7.2	-3.1	-2.4	-2.2	-4.1	-5.2	-4.6	-3.6	-3.0	-2.5	-3.3	-3.0
-6.7	-7.6	-9.1	-9.6	-9.1	-8.6	-8.8	-8.9	-9.3	-11.0	-10.3	-9.0	-7.7	-7.2	-8.2	-10.0	-10.1	-10.2	-10.0	-10.0	-11.1	-11.7	-7.4	-8.6	-10.9	-9.9	-7.1	-5.3	-5.7	-4.6	-5.0	-6.0	-5.3	-5.0	-6.3	-6.1
-8.9	-7.2	-7.1	-8.0	-7.8	-7.3	-9.6	-11.0	-10.7	-10.8	-10.2	-9.9	-11.3	-12.0	-12.4	-11.3	-11.1	-9.8	-11.4	-13.6	-14.3	-10.9	-8.2	-14.0	-15.7	-12.5	-10.8	-8.0	-5.4	-9.1	-12.1	-13.3	-12.8	-12.2	-11.8	-10.9
-4.5	-4.1	-4.8	-5.3	-5.4	-6.1	-8.0	-9.2	-8.0	-5.6	-2.7	-5.0	-5.9	-6.3	-6.5	-6.8	-6.3	-5.3	-5.7	-5.5	-5.7	-4.1	-7.6	-12.9	-11.9	-8.9	-6.1	-3.7	-3.6	-4.2	-4.0	-4.6	-5.7	-6.3	-6.1	-5.7
-5.5	-5.3	-5.8	-5.8	-7.2	-8.7	-9.3	-9.3	-9.0	-6.9	-2.8	-2.9	-2.2	-3.2	-4.8	-7.1	-8.8	-8.9	-5.6	-3.2	-4.9	-4.8	-6.2	-7.3	-6.4	-6.5	-5.0	-3.1	-2.5	-2.9	-2.9	-2.3	-2.2	-3.0	-4.5	-5.7
-6.8	-6.2	-5.8	-6.3	-8.7	-12.7	-13.6	-13.4	-13.3	-12.8	-8.5	-6.9	-7.9	-7.5	-6.8	-8.7	-11.5	-13.8	-12.1	-8.2	-11.2	-10.3	-8.4	-7.8	-9.0	-11.6	-10.9	-9.6	-9.4	-9.6	-8.6	-6.5	-4.2	-4.8	-6.7	-7.4
-6.6	-6.2	-8.1	-6.9	-6.3	-8.7	-9.3	-9.6	-11.1	-12.7	-14.4	-10.3	-10.0	-9.3	-8.2	-6.6	-9.2	-11.3	-12.1	-9.8	-9.7	-10.8	-10.1	-6.8	-8.6	-10.3	-10.8	-11.7	-13.8	-12.9	-10.7	-10.0	-9.1	-9.3	-8.8	-7.7
-5.3	-5.0	-6.1	-5.1	-4.9	-5.9	-4.8	-4.8	-5.6	-7.3	-8.7	-7.6	-6.5	-5.0	-5.0	-5.0	-5.0	-6.4	-7.2	-7.6	-6.7	-7.1	-7.2	-7.5	-7.1	-6.2	-6.8	-7.5	-8.2	-7.5	-6.1	-6.2	-7.2	-6.6	-6.0	-6.3
-3.8	-3.6	-3.4	-2.8	-2.3	-2.0	-1.6	-1.9	-1.8	-1.8	-2.2	-3.3	-3.0	-3.2	-2.9	-2.7	-2.2	-1.8	-1.4	-1.6	-1.4	-1.2	-1.5	-2.2	-3.1	-3.3	-3.3	-2.8	-2.3	-2.1	-1.6	-1.6	-1.9	-2.6	-2.2	-3.1
-1.4	-1.5	-1.0	-.1	.5	1.3	1.5	1.5	1.4	1.0	1.0	.4	.0	.3	-.1	.0	.2	.7	1.3	1.7	1.9	1.9	1.8	1.8	1.5	1.4	1.2	1.3	1.5	1.7	1.5	1.2	.4	-.4	-1.2	-1.4
1.7	2.0	2.4	2.9	3.0	3.1	3.0	3.1	2.8	2.8	2.9	3.3	2.3	2.1	1.8	2.1	2.7	3.2	3.8	4.0	3.9	4.4	5.7	7.5	5.8	4.3	5.7	6.6	6.4	5.5	5.8	6.4	4.8	3.2	2.1	1.8
7.0	6.9	6.7	7.1	8.2	8.3	8.1	8.2	8.6	8.2	7.5	8.1	5.7	5.3	5.3	6.7	9.8	14.4	18.0	19.4	18.4	19.6	23.0	25.8	17.4	16.0	20.9	22.4	24.6	25.4	27.0	26.9	24.6	20.5	11.4	7.3
13.0	13.1	13.0	13.6	14.2	14.6	15.6	17.3	18.7	16.2	13.3	12.5	13.0	13.6	15.0	17.4	19.8	21.6	23.4	25.8	28.1	30.6	31.9	31.6	31.2	31.2	31.0	31.1	31.3	30.6	28.8	26.7	24.7	21.4	15.9	13.6

Figure 31. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA15, using all observations



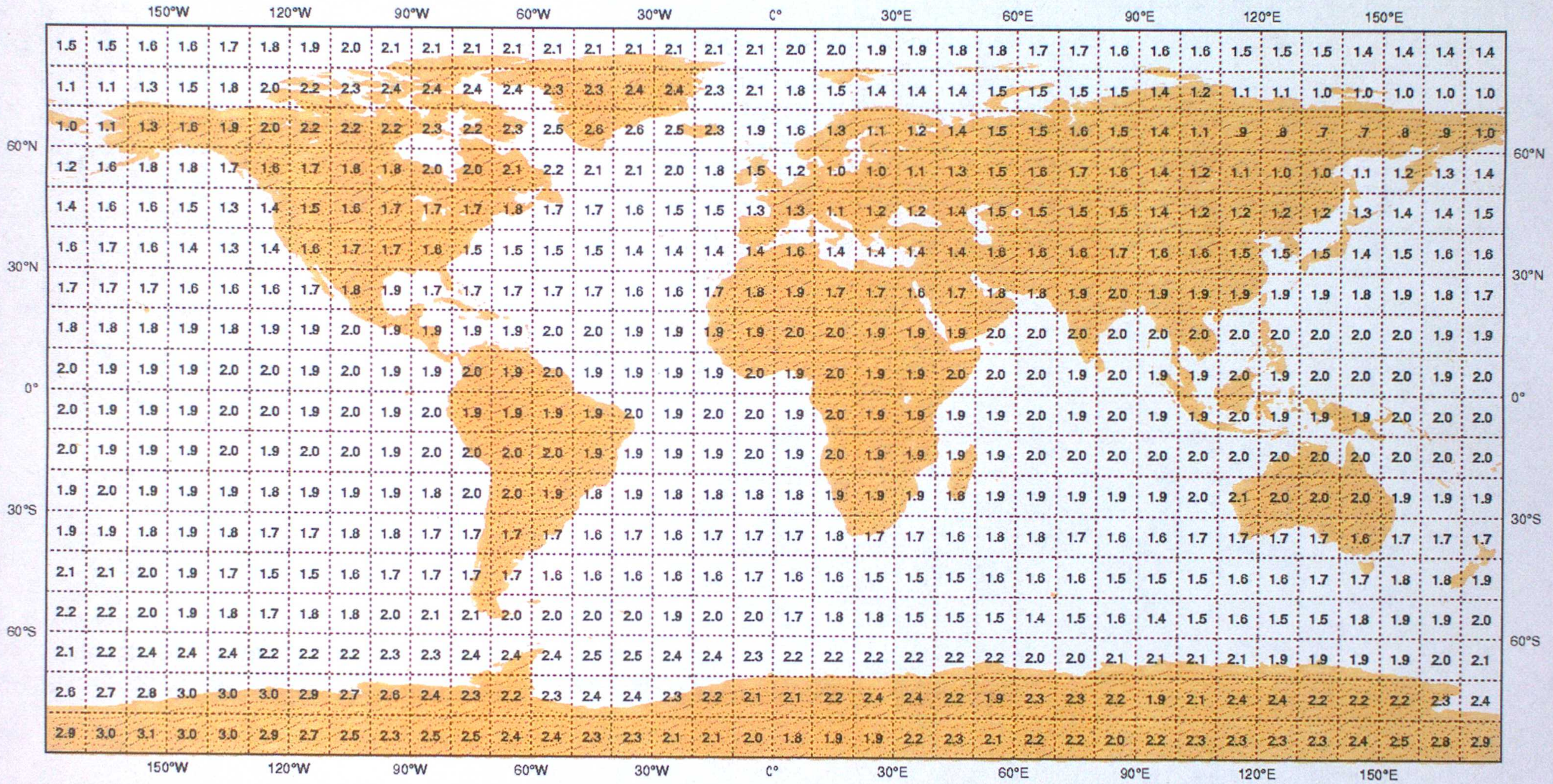
1.9	1.8	1.9	2.0	2.0	2.1	2.3	2.5	2.5	2.6	2.9	2.7	3.0	3.1	3.0	2.5	2.3	2.3	2.6	2.7	2.8	2.8	2.7	2.5	2.2	2.4	2.3	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.9
2.1	2.2	2.1	2.1	2.2	2.4	2.4	2.5	2.4	2.5	2.7	3.1	4.2	4.2	3.9	3.4	2.5	2.3	2.3	2.4	2.6	2.6	2.5	2.3	2.1	2.2	2.1	2.1	1.9	1.8	1.8	1.9	1.9	1.9	2.0	2.0
2.6	2.3	2.3	2.3	2.5	2.7	3.0	2.8	3.0	2.9	2.8	2.7	2.6	4.4	4.9	3.2	2.8	2.5	2.5	2.7	3.0	2.8	2.5	2.3	2.3	2.5	2.6	2.8	2.6	2.6	2.6	2.6	2.7	3.0	2.8	2.5
2.9	3.0	2.7	2.6	2.8	3.1	3.6	3.3	3.4	3.9	4.3	3.4	3.2	3.6	3.3	3.0	3.4	3.3	3.2	2.9	2.7	2.9	3.0	3.1	2.9	2.8	2.8	3.0	3.1	3.0	2.7	2.7	2.7	2.9	3.0	2.7
3.5	3.6	3.3	3.0	3.0	4.2	3.6	3.7	4.1	4.3	4.4	3.9	3.8	3.9	3.6	3.7	3.8	3.8	3.6	3.5	3.2	3.3	2.9	3.8	4.5	4.5	4.6	4.6	4.2	3.6	3.6	3.4	3.4	3.5	3.8	3.4
4.1	4.3	4.1	3.6	3.7	4.5	4.9	5.1	5.4	5.3	4.9	4.5	4.4	4.5	4.2	4.4	4.3	4.2	4.6	4.7	4.7	4.7	4.9	4.5	4.8	5.6	5.5	4.0	4.8	4.9	5.1	4.8	4.4	4.0	4.3	4.3
3.8	3.9	4.3	4.4	4.6	5.3	5.7	5.0	4.8	4.7	5.1	5.1	4.5	4.5	4.6	4.7	4.9	4.8	5.3	5.4	6.4	5.4	5.0	5.6	4.6	4.1	4.4	4.2	4.3	3.9	4.4	4.8	4.0	4.0	4.9	4.4
4.4	4.7	4.7	5.7	5.5	4.6	3.9	3.1	3.5	4.0	4.5	4.7	3.9	3.5	3.3	3.5	4.1	5.2	5.9	5.5	5.1	5.7	4.9	4.6	2.7	3.7	5.1	5.8	3.9	4.8	4.6	3.8	3.2	3.6	4.5	4.4
3.7	2.9	3.0	3.0	3.4	3.7	3.4	3.3	3.8	3.2	2.7	3.7	4.7	4.9	4.4	4.3	4.1	3.9	4.4	4.6	4.3	3.6	5.4	4.4	4.7	5.0	5.4	3.9	2.8	3.3	3.9	4.7	5.3	5.6	5.0	4.8
3.2	2.8	2.7	3.1	3.7	4.3	4.1	4.3	3.9	3.6	3.0	2.7	2.4	2.9	3.4	3.4	3.6	3.6	3.9	3.3	4.0	3.9	3.9	3.6	4.1	3.9	3.6	3.0	2.7	2.6	2.8	2.4	2.2	2.7	3.0	3.1
4.3	4.0	4.3	3.9	4.3	4.3	4.3	4.5	3.7	4.2	6.0	5.3	5.4	5.0	4.3	3.8	3.4	3.2	4.3	4.4	3.4	4.3	4.7	4.7	4.4	3.4	4.1	5.6	5.8	5.3	5.0	5.0	3.9	4.4	4.1	3.9
4.8	4.7	5.2	4.5	5.2	6.2	5.1	4.5	4.0	4.1	4.2	4.6	5.0	4.6	5.2	5.2	3.9	3.9	3.8	4.7	4.6	5.1	5.2	4.8	4.9	4.3	4.3	4.8	4.7	4.9	4.9	4.7	5.0	5.2	5.5	4.9
4.5	4.4	4.7	4.2	4.3	5.1	5.3	5.0	4.9	4.7	5.5	4.8	4.4	4.4	4.4	4.6	4.4	4.2	4.5	4.5	4.4	5.1	5.0	5.0	5.4	4.7	4.6	4.6	4.6	4.7	4.5	4.5	4.9	4.5	4.5	4.7
4.2	3.7	3.6	3.7	3.5	3.5	3.5	3.4	3.7	3.6	3.9	4.1	4.0	4.3	4.0	3.8	3.7	3.6	3.3	3.3	3.5	3.6	3.8	4.4	4.4	4.3	4.2	4.1	3.9	3.6	3.2	3.2	3.5	3.6	3.4	4.0
3.5	3.4	3.6	3.4	2.7	2.6	2.6	2.6	2.5	2.6	2.7	3.0	3.3	3.4	3.5	3.2	3.0	2.9	2.8	2.7	2.7	2.7	2.7	2.8	2.6	2.9	2.9	2.6	2.7	2.6	2.7	2.8	3.1	3.1	3.3	3.3
3.2	2.9	2.8	2.7	2.5	2.4	2.4	2.3	2.3	2.4	2.5	3.0	3.1	3.0	2.8	2.8	2.7	2.4	2.4	2.4	2.3	2.4	4.0	6.1	4.6	2.8	4.1	5.0	5.1	4.6	5.3	6.3	4.8	3.4	3.0	3.1
2.5	2.6	3.0	3.9	5.1	5.1	4.9	5.0	4.9	4.6	3.6	2.9	2.6	2.6	2.9	4.5	5.7	6.5	7.1	8.1	9.2	8.0	6.6	4.2	6.2	5.9	5.1	5.2	5.2	5.9	5.0	3.4	4.4	5.0	5.2	2.9
5.6	5.4	5.6	5.7	5.3	5.1	5.0	4.8	4.7	4.0	4.4	4.9	5.5	5.6	5.7	5.3	5.4	5.5	4.9	4.4	3.4	3.0	2.8	2.9	3.3	3.3	3.3	3.5	3.7	3.6	3.4	2.9	3.0	4.2	6.6	6.1

Figure 32. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



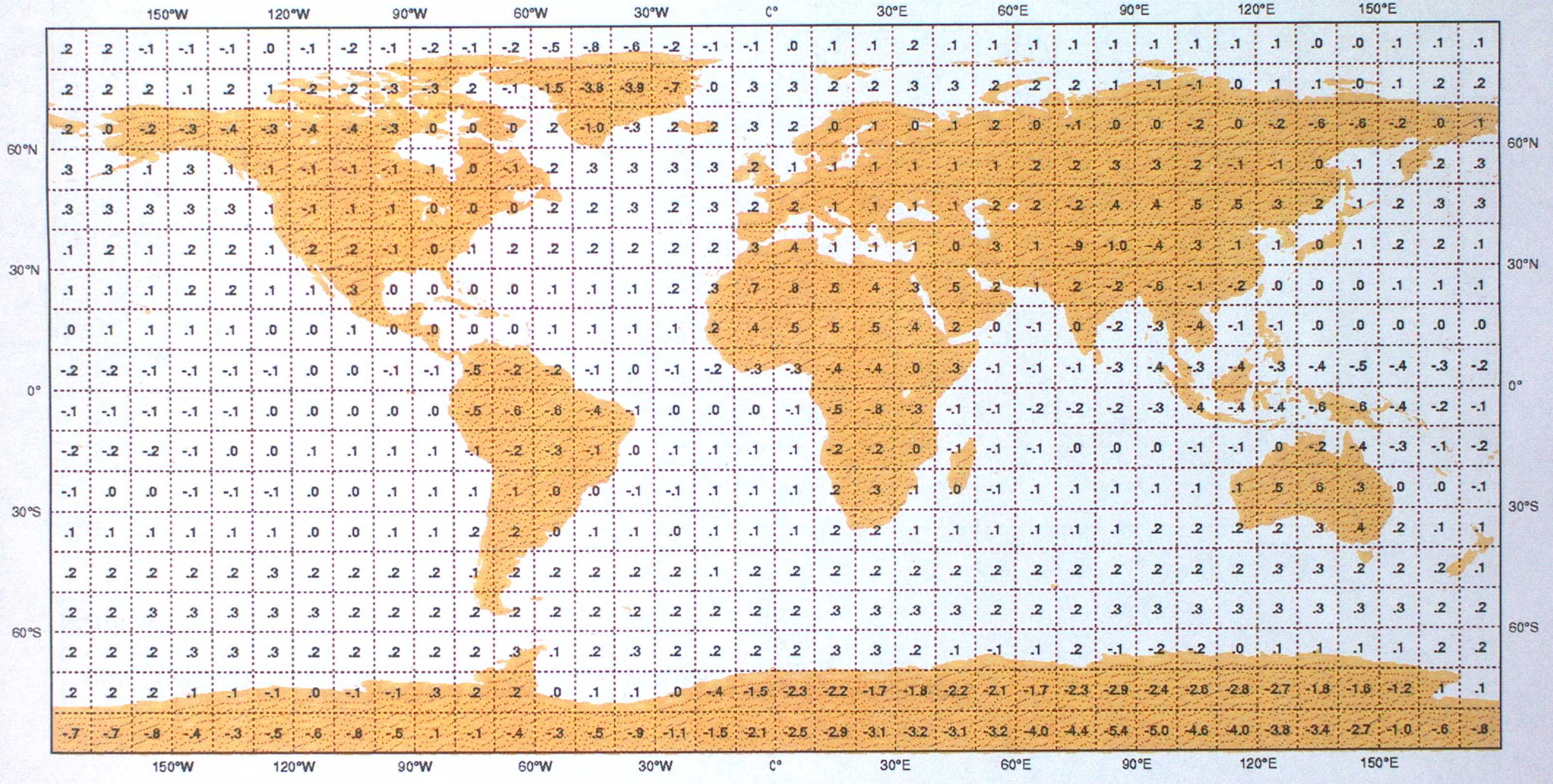
2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.5	3.3	3.1	3.0	2.9	2.8	2.7	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.5	2.6
.6	.8	1.1	1.5	1.8	2.0	2.3	2.7	2.9	3.0	3.0	3.0	3.2	3.4	3.4	3.0	2.4	2.0	1.7	1.5	1.3	1.2	1.0	.8	.7	.6	.5	.4	.3	.2	.1	.1	.1	.2	.3	.5
-1.1	-.9	-.6	.0	.5	1.0	1.6	1.9	2.1	2.3	2.3	2.3	2.3	2.4	2.1	1.8	1.4	1.0	.6	.2	-.2	-.4	-.6	-.7	-.7	-.9	-1.1	-1.0	-.9	-1.0	-1.1	-1.0	-1.0	-1.1	-1.1	-1.1
-1.6	-1.5	-1.3	-1.0	-.5	.2	.5	.7	.9	1.0	.9	.9	1.0	1.2	1.4	1.1	.8	.3	-.3	-.7	-.9	-1.0	-1.1	-.9	-.6	-.5	-.4	-.4	-.7	-.9	-1.2	-1.2	-1.2	-1.4	-1.4	-1.4
-.6	-.5	-.6	-.7	-.8	-.6	-.5	-.7	-.7	-.8	-.9	-1.0	-.7	-.2	-.1	-.1	-.3	-.4	-.6	-.7	-.8	-1.0	-.8	-.5	-.4	.0	.0	-.1	-.5	-.9	-1.1	-1.3	-1.4	-1.4	-1.1	-.9
-.6	-.5	-.5	-.7	-1.0	-1.3	-1.5	-1.6	-1.4	-1.4	-1.4	-1.4	-1.2	-1.0	-1.0	-1.1	-1.1	-1.0	-.7	-.8	-.8	-1.0	-.9	-.7	-.9	-.6	-.7	-.8	-1.0	-1.2	-1.1	-1.4	-1.4	-1.3	-1.2	-.9
-1.2	-1.3	-1.2	-1.2	-1.3	-1.4	-1.7	-1.9	-1.8	-1.8	-1.7	-1.6	-1.5	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.4	-1.3	-1.5	-1.5	-1.5	-1.9	-1.9	-2.1	-2.3	-2.5	-2.5	-2.3	-2.3	-2.2	-1.8	-1.7	-1.3
-2.2	-2.1	-2.0	-2.0	-2.0	-2.0	-2.3	-2.3	-2.5	-2.4	-2.4	-2.5	-2.4	-2.4	-2.4	-2.3	-2.4	-2.3	-2.4	-2.4	-2.5	-2.5	-2.4	-2.5	-2.7	-2.7	-2.9	-3.0	-3.0	-3.1	-3.1	-3.1	-3.1	-2.8	-2.7	-2.3
-2.8	-2.7	-2.6	-2.7	-2.6	-2.6	-2.8	-2.6	-2.8	-2.7	-2.6	-2.8	-2.7	-2.8	-2.7	-2.7	-2.8	-2.7	-2.8	-2.7	-2.8	-2.7	-2.8	-3.0	-2.9	-3.0	-2.9	-3.0	-3.0	-3.0	-3.1	-3.1	-3.2	-3.2	-3.2	-3.0
-2.8	-2.7	-2.7	-2.7	-2.6	-2.7	-2.8	-2.6	-2.8	-2.7	-2.6	-2.7	-2.6	-2.7	-2.6	-2.7	-2.8	-2.8	-2.8	-2.6	-2.7	-2.7	-2.8	-2.9	-2.7	-3.0	-2.9	-2.9	-2.9	-2.9	-3.0	-3.1	-3.1	-3.1	-3.1	-3.0
-2.4	-2.3	-2.3	-2.2	-2.1	-2.3	-2.2	-2.1	-2.3	-2.4	-2.5	-2.5	-2.4	-2.4	-2.1	-2.2	-2.3	-2.4	-2.5	-2.4	-2.5	-2.4	-2.3	-2.5	-2.4	-2.7	-2.8	-2.8	-3.0	-3.0	-3.1	-3.1	-2.9	-2.9	-2.8	-2.7
-1.7	-1.7	-1.8	-1.7	-1.4	-1.6	-1.5	-1.4	-1.4	-1.5	-1.8	-1.8	-1.7	-1.6	-1.5	-1.4	-1.3	-1.3	-1.4	-1.4	-1.5	-1.5	-1.4	-1.5	-1.4	-1.6	-1.6	-1.7	-2.1	-2.2	-2.2	-2.2	-2.1	-2.0	-1.9	-1.8
-.6	-.5	-.6	-.5	-.5	-.7	-.6	-.8	-.7	-.7	-.8	-.8	-.8	-.9	-.8	-.7	-.5	-.4	-.4	-.5	-.6	-.6	-.6	-.8	-.7	-.4	-.4	-.4	-.6	-.7	-.8	-.8	-.7	-.9	-.8	-.6
.3	.5	.5	.6	.5	.3	.4	.2	.2	.1	.0	.0	-.3	-.3	-.3	-.2	.0	.2	.2	.0	-.1	-.3	-.3	-.3	-.3	-.1	-.2	-.2	-.4	-.4	-.5	-.4	-.4	-.5	-.3	.1
1.6	1.6	1.8	1.9	1.8	1.7	1.6	1.4	1.3	1.2	1.2	1.1	1.0	.9	.9	1.0	.9	.8	.7	.5	.3	.1	.0	.1	.0	-.1	-.2	-.3	-.5	-.5	-.3	.0	.2	.6	1.0	1.3
2.8	3.0	3.2	3.4	3.4	3.5	3.5	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.3	3.3	3.2	3.0	2.9	2.8	2.7	2.7	2.8	2.7	2.4	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	2.0	2.2	2.6
4.4	4.5	4.7	5.0	5.3	5.4	5.5	5.8	5.9	5.9	6.0	6.0	5.8	5.7	5.6	5.6	5.7	6.2	6.5	6.5	6.4	6.4	6.6	6.8	6.0	5.8	6.1	6.0	6.4	6.3	6.1	5.8	5.1	4.7	4.3	4.1
6.6	7.0	7.4	7.6	7.5	7.5	7.7	7.7	8.7	8.3	8.1	7.9	7.8	7.9	8.0	8.1	8.3	8.7	9.0	9.2	9.4	9.3	9.4	9.8	9.6	9.4	9.1	9.1	9.0	8.5	8.1	7.6	7.3	7.2	6.9	6.7

Figure 33. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS4 (400 hPa)
NOAA15, using all observations



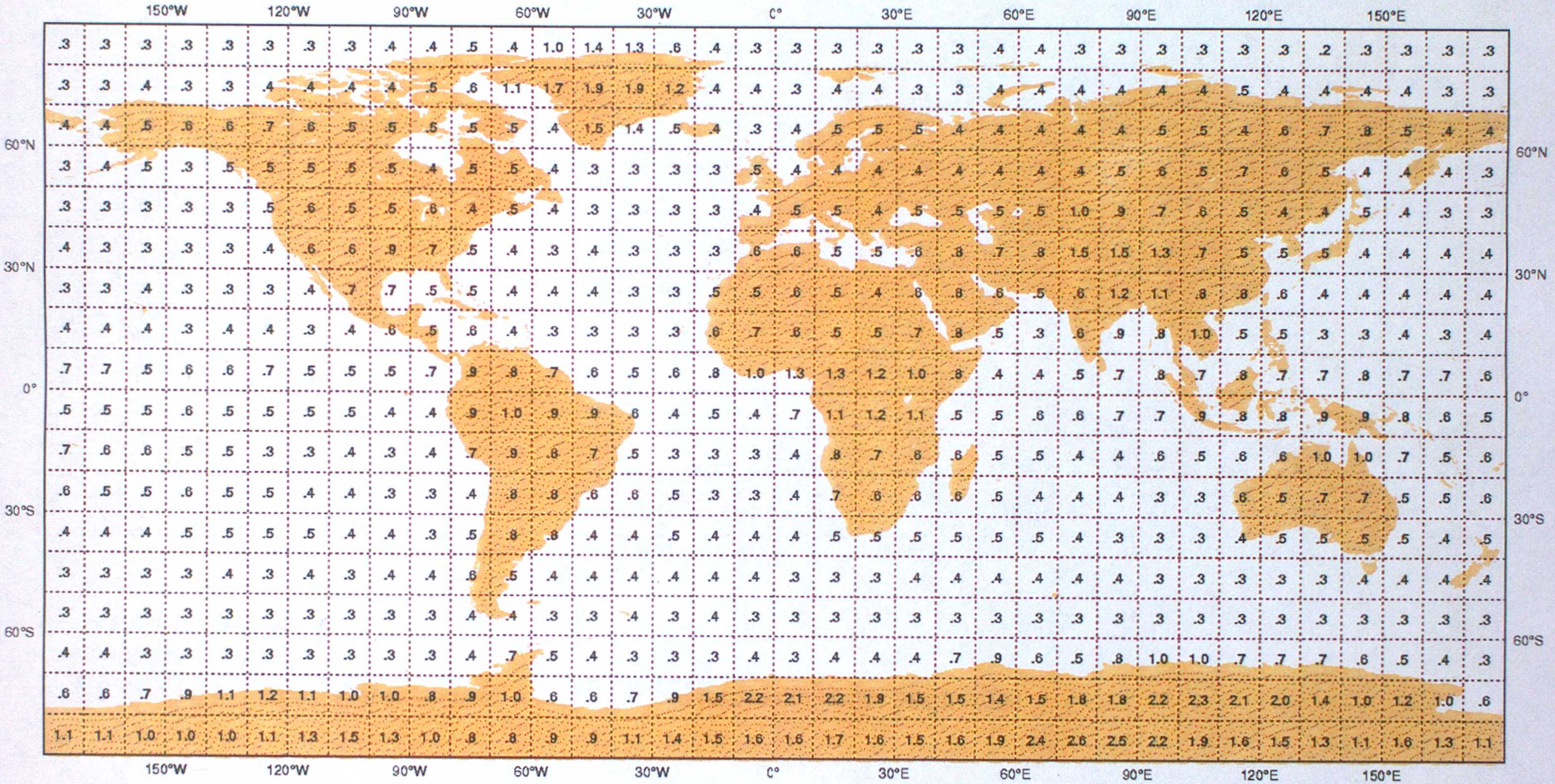
1.5	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.1	2.0	2.0	1.9	1.9	1.8	1.8	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4
1.1	1.1	1.3	1.5	1.8	2.0	2.2	2.3	2.4	2.4	2.4	2.4	2.3	2.3	2.4	2.4	2.3	2.1	1.8	1.5	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.4	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0
1.0	1.1	1.3	1.6	1.9	2.0	2.2	2.2	2.2	2.3	2.2	2.3	2.5	2.6	2.6	2.5	2.3	1.9	1.6	1.3	1.1	1.2	1.4	1.5	1.5	1.6	1.5	1.4	1.1	.9	.8	.7	.7	.8	.9	1.0
1.2	1.6	1.8	1.8	1.7	1.6	1.7	1.8	1.8	2.0	2.0	2.1	2.2	2.1	2.1	2.0	1.8	1.5	1.2	1.0	1.0	1.1	1.3	1.5	1.6	1.7	1.6	1.4	1.2	1.1	1.0	1.0	1.1	1.2	1.3	1.4
1.4	1.6	1.6	1.5	1.3	1.4	1.5	1.6	1.7	1.7	1.7	1.8	1.7	1.7	1.6	1.5	1.5	1.3	1.3	1.1	1.2	1.2	1.4	1.5	1.5	1.5	1.5	1.4	1.2	1.2	1.2	1.2	1.3	1.4	1.4	1.5
1.6	1.7	1.6	1.4	1.3	1.4	1.6	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.6	1.4	1.4	1.4	1.4	1.6	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.5	1.4	1.5	1.6	1.6
1.7	1.7	1.7	1.6	1.6	1.6	1.7	1.8	1.9	1.7	1.7	1.7	1.7	1.7	1.6	1.6	1.7	1.8	1.9	1.7	1.7	1.6	1.7	1.8	1.8	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.8	1.9	1.8	1.7
1.8	1.8	1.8	1.9	1.8	1.9	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	1.9	2.0	2.0	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9
2.0	1.9	1.9	1.9	2.0	2.0	1.9	2.0	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	2.0	2.0	2.0	1.9	2.0	1.9	1.9	2.0	1.9	2.0	2.0	2.0	1.9	2.0
2.0	1.9	1.9	1.9	2.0	2.0	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	2.0	2.0	2.0
2.0	1.9	1.9	1.9	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
1.9	2.0	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.8	2.0	2.0	1.9	1.8	1.9	1.8	1.8	1.8	1.8	1.9	1.9	1.9	1.8	1.9	1.9	1.9	1.9	1.9	2.0	2.1	2.0	2.0	2.0	1.9	1.9	1.9
1.9	1.9	1.8	1.9	1.8	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.7	1.6	1.7	1.7	1.7	1.8	1.7	1.7	1.6	1.8	1.8	1.7	1.6	1.6	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7
2.1	2.1	2.0	1.9	1.7	1.5	1.5	1.6	1.7	1.7	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.6	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.9
2.2	2.2	2.0	1.9	1.8	1.7	1.8	1.8	2.0	2.1	2.1	2.0	2.0	2.0	2.0	1.9	2.0	2.0	1.7	1.8	1.8	1.5	1.5	1.5	1.4	1.5	1.6	1.4	1.5	1.6	1.5	1.5	1.8	1.9	1.9	2.0
2.1	2.2	2.4	2.4	2.4	2.2	2.2	2.2	2.3	2.3	2.4	2.4	2.4	2.5	2.5	2.4	2.4	2.3	2.2	2.2	2.2	2.2	2.2	2.2	2.0	2.0	2.1	2.1	2.1	2.1	1.9	1.9	1.9	1.9	2.0	2.1
2.6	2.7	2.8	3.0	3.0	3.0	2.9	2.7	2.6	2.4	2.3	2.2	2.3	2.4	2.4	2.3	2.2	2.1	2.1	2.2	2.4	2.4	2.2	1.9	2.3	2.3	2.2	1.9	2.1	2.4	2.4	2.2	2.2	2.2	2.3	2.4
2.9	3.0	3.1	3.0	3.0	2.9	2.7	2.5	2.3	2.5	2.5	2.4	2.4	2.3	2.3	2.1	2.1	2.0	1.8	1.9	1.9	2.2	2.3	2.1	2.2	2.2	2.0	2.2	2.3	2.3	2.3	2.3	2.4	2.5	2.8	2.9

Figure 34. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



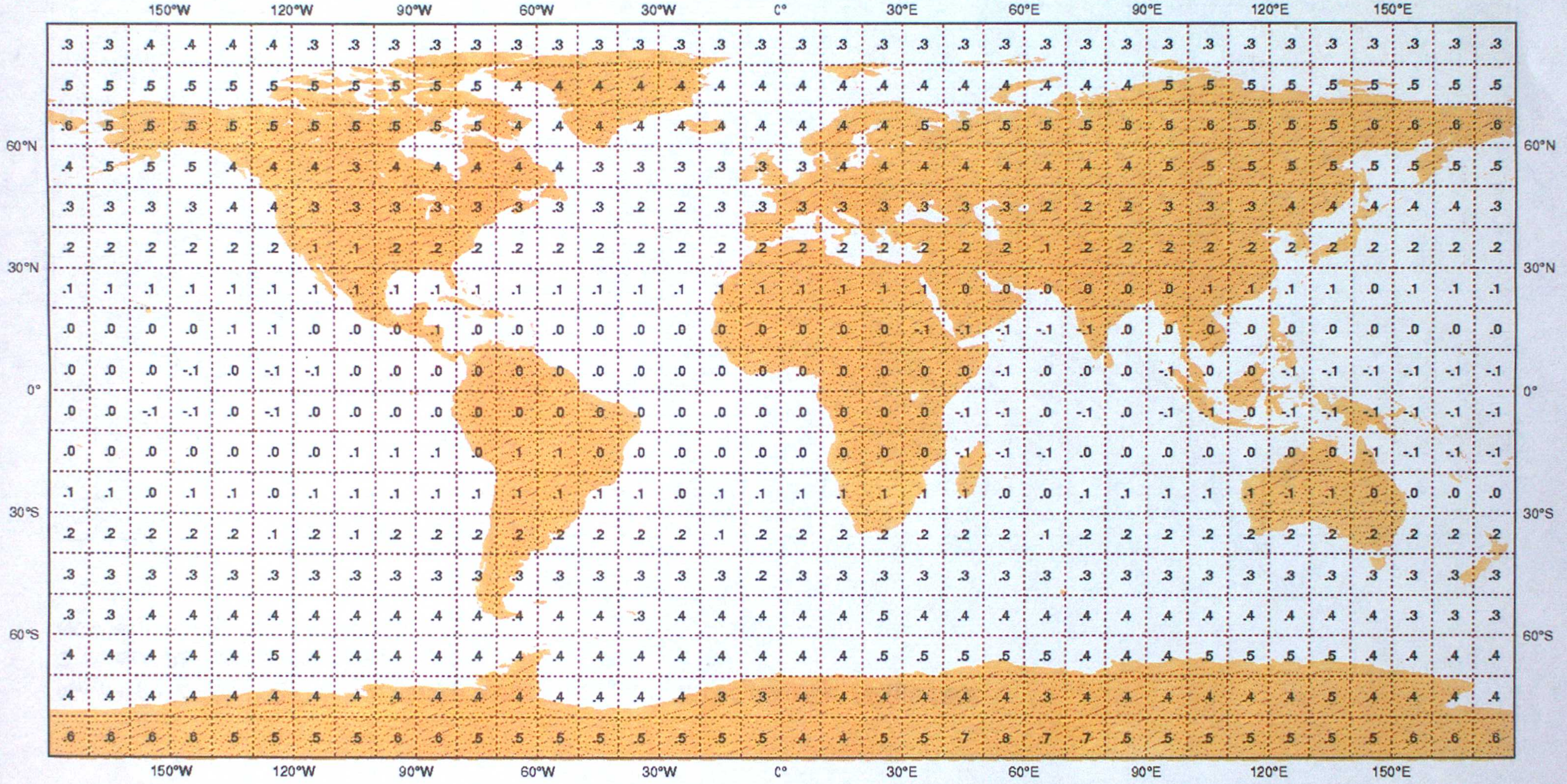
.2	.2	-.1	-.1	-.1	.0	-.1	-.2	-.1	-.2	-.1	-.2	-.5	-.8	-.6	-.2	-.1	-.1	.0	.1	.1	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1
.2	.2	.2	.1	.2	.1	-.2	-.2	-.3	-.3	.2	-.1	-1.5	-3.8	-3.9	-.7	.0	.3	.3	.2	.2	.3	.3	.2	.2	.2	.1	-.1	-.1	.0	.1	.1	.0	.1	.2	.2
.2	.0	-.2	-.3	-.4	-.3	-.4	-.4	-.3	.0	.0	.0	.2	-1.0	-.3	.2	.2	.3	.2	.0	.1	.0	.1	.2	.0	-.1	.0	.0	-.2	.0	-.2	-.6	-.6	-.2	.0	.1
.3	.3	.1	.3	.1	.1	-.1	-.1	-.1	.1	.0	-.1	.2	.3	.3	.3	.3	.2	.1	.1	.1	.1	.1	.1	.2	.2	.3	.3	.2	-.1	-.1	.0	.1	.1	.2	.3
.3	.3	.3	.3	.3	.1	-.1	.1	.1	.0	.0	.0	.2	.2	.3	.2	.3	.2	.2	.1	.1	.1	.1	.2	.2	-.2	.4	.4	.5	.5	.3	.2	.1	.2	.3	.3
.1	.2	.1	.2	.2	.1	.2	.2	-.1	.0	.1	.2	.2	.2	.2	.2	.2	.3	.4	.1	.1	.1	.0	.3	.1	-.9	-1.0	-.4	.3	.1	.1	.0	.1	.2	.2	.1
.1	.1	.1	.2	.2	.1	.1	.3	.0	.0	.0	.0	.1	.1	.1	.2	.3	.7	.8	.5	.4	.3	.5	.2	.1	.2	-.2	-.6	-.1	-.2	.0	.0	.0	.1	.1	.1
.0	.1	.1	.1	.1	.0	.0	.1	.0	.0	.0	.0	.1	.1	.1	.1	.2	.4	.5	.5	.5	.4	.2	.0	-.1	.0	-.2	-.3	-.4	-.1	-.1	.0	.0	.0	.0	.0
-.2	-.2	-.1	-.1	-.1	-.1	.0	.0	-.1	-.1	-.5	-.2	-.2	-.1	.0	-.1	-.2	-.3	-.3	-.4	-.4	.0	.3	-.1	-.1	-.1	-.3	-.4	-.3	-.4	-.3	-.4	-.5	-.4	-.3	-.2
-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	-.5	-.6	-.6	-.4	-.1	.0	.0	.0	-.1	-.5	-.8	-.3	-.1	-.1	-.2	-.2	-.2	-.3	-.4	-.4	-.4	-.6	-.6	-.4	-.2	-.1
-.2	-.2	-.2	-.1	.0	.0	.1	.1	.1	.1	-.1	-.2	-.3	-.1	.0	.1	.1	.1	.1	-.2	-.2	.0	-.1	-.1	-.1	.0	.0	.0	-.1	-.1	.0	-.2	-.4	-.3	-.1	-.2
-.1	.0	.0	-.1	-.1	-.1	.0	.0	.1	.1	.1	.1	.0	.0	-.1	-.1	.1	.1	.1	.2	.3	.1	.0	-.1	.1	.1	.1	.1	.1	.1	.5	.6	.3	.0	.0	-.1
.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.2	.2	.0	.1	.1	.0	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.3	.4	.2	.1	.1
.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.2	.2	.2	.1
.2	.2	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2
.2	.2	.2	.3	.3	.3	.2	.2	.2	.2	.2	.3	.1	.2	.3	.2	.2	.2	.2	.3	.3	.2	.1	-.1	.1	.2	-.1	-.2	-.2	.0	.1	.1	.1	.1	.2	.2
.2	.2	.2	.1	.1	-.1	.0	-.1	-.1	.3	.2	.2	.0	.1	.1	.0	-.4	-1.5	-2.3	-2.2	-1.7	-1.8	-2.2	-2.1	-1.7	-2.3	-2.9	-2.4	-2.6	-2.8	-2.7	-1.8	-1.6	-1.2	.1	.1
-.7	-.7	-.8	-.4	-.3	-.5	-.6	-.8	-.5	.1	-.1	-.4	-.3	-.5	-.9	-1.1	-1.5	-2.1	-2.5	-2.9	-3.1	-3.2	-3.1	-3.2	-4.0	-4.4	-5.4	-5.0	-4.6	-4.0	-3.8	-3.4	-2.7	-1.0	-.6	-.8

Figure 35. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-5 (700 hPa)
NOAA15, using all observations



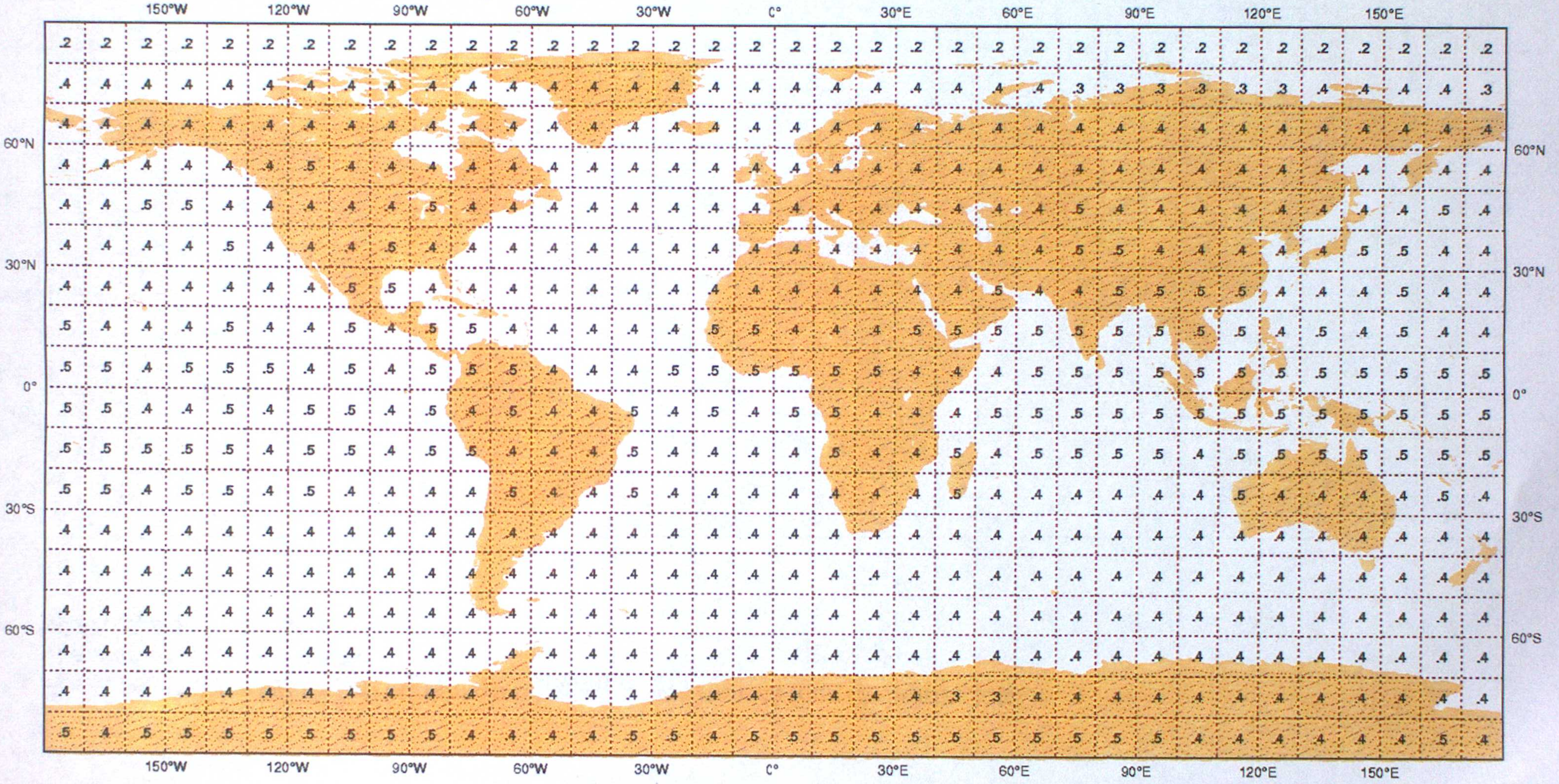
.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.5	.4	1.0	1.4	1.3	.6	.4	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3
.3	.3	.4	.3	.3	.4	.4	.4	.4	.5	.6	1.1	1.7	1.9	1.9	1.2	.4	.4	.3	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.3	.3
.4	.4	.5	.6	.6	.7	.6	.5	.5	.5	.5	.5	.4	1.5	1.4	.5	.4	.3	.4	.5	.5	.5	.4	.4	.4	.4	.4	.5	.5	.4	.6	.7	.8	.5	.4	.4
.3	.4	.5	.3	.5	.5	.5	.5	.5	.4	.5	.5	.4	.3	.3	.3	.3	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5	.6	.5	.7	.6	.5	.4	.4	.4	.3
.3	.3	.3	.3	.3	.5	.6	.5	.5	.6	.4	.5	.4	.3	.3	.3	.3	.4	.5	.5	.4	.5	.5	.5	.5	1.0	.9	.7	.6	.5	.4	.4	.5	.4	.3	.3
.4	.3	.3	.3	.3	.4	.6	.6	.9	.7	.5	.4	.3	.4	.3	.3	.3	.6	.6	.5	.5	.6	.8	.7	.8	1.5	1.5	1.3	.7	.5	.5	.5	.4	.4	.4	.4
.3	.3	.4	.3	.3	.3	.4	.7	.7	.5	.5	.4	.4	.4	.3	.3	.5	.5	.6	.5	.4	.6	.8	.6	.5	.6	1.2	1.1	.8	.8	.6	.4	.4	.4	.4	.4
.4	.4	.4	.3	.4	.4	.3	.4	.6	.5	.6	.4	.3	.3	.3	.3	.6	.7	.6	.5	.5	.7	.8	.5	.3	.6	.9	.8	1.0	.5	.5	.3	.3	.4	.3	.4
.7	.7	.5	.6	.6	.7	.5	.5	.5	.7	.9	.8	.7	.6	.5	.6	.8	1.0	1.3	1.3	1.2	1.0	.8	.4	.4	.5	.7	.8	.7	.8	.7	.7	.8	.7	.7	.6
.5	.5	.5	.6	.5	.5	.5	.5	.4	.4	.9	1.0	.9	.9	.6	.4	.5	.4	.7	1.1	1.2	1.1	.5	.5	.6	.6	.7	.7	.9	.8	.8	.9	.9	.8	.6	.5
.7	.6	.6	.5	.5	.3	.3	.4	.3	.4	.7	.9	.8	.7	.5	.3	.3	.3	.4	.8	.7	.6	.6	.5	.5	.4	.4	.6	.5	.6	.6	1.0	1.0	.7	.5	.6
.6	.5	.5	.6	.5	.5	.4	.4	.3	.3	.4	.8	.8	.6	.6	.5	.3	.3	.4	.7	.6	.6	.6	.5	.4	.4	.4	.3	.3	.6	.5	.7	.7	.5	.5	.6
.4	.4	.4	.5	.5	.5	.5	.4	.4	.3	.5	.8	.8	.4	.4	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.4	.3	.3	.3	.4	.5	.5	.5	.5	.4	.5
.3	.3	.3	.3	.4	.3	.4	.3	.4	.4	.6	.5	.4	.4	.4	.4	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.4	.4	.4	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.4	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.7	.5	.4	.3	.3	.3	.4	.3	.4	.4	.4	.7	.9	.6	.5	.8	1.0	1.0	.7	.7	.7	.6	.5	.4	.3
.6	.6	.7	.9	1.1	1.2	1.1	1.0	1.0	.8	.9	1.0	.6	.6	.7	.9	1.5	2.2	2.1	2.2	1.9	1.5	1.5	1.4	1.5	1.8	1.8	2.2	2.3	2.1	2.0	1.4	1.0	1.2	1.0	.6
1.1	1.1	1.0	1.0	1.0	1.1	1.3	1.5	1.3	1.0	.8	.8	.9	.9	1.1	1.4	1.5	1.6	1.6	1.7	1.6	1.5	1.6	1.9	2.4	2.6	2.5	2.2	1.9	1.6	1.5	1.3	1.1	1.6	1.3	1.1

Figure 36. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



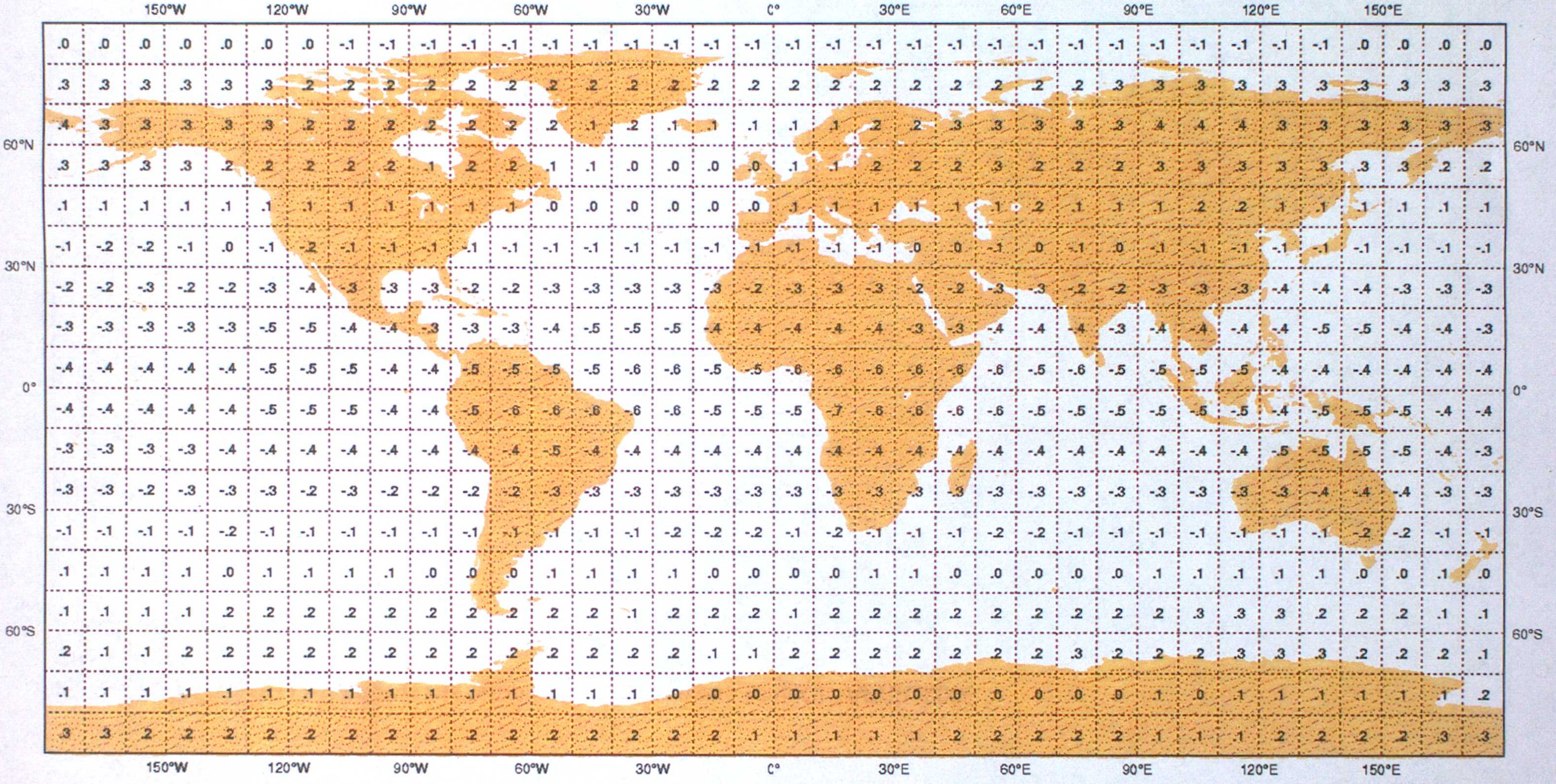
.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5
.6	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.6	.6	.6	.5	.5	.5	.6	.6	.6	.6
.4	.5	.5	.5	.4	.4	.4	.3	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5
.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.3	.3	.4	.4	.4	.4	.4	.3
.2	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.1	.1	.1
.0	.0	.0	.0	.1	.1	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0
.0	.0	.0	-.1	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	.0	.0	.0	-.1	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1
.0	.0	-.1	-.1	.0	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	.0	-.1	.0	-.1	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1
.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1
.1	.1	.0	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0
.2	.2	.2	.2	.2	.1	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3
.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.5	.5	.5	.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.3	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4
.6	.6	.6	.6	.5	.5	.5	.5	.6	.6	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.5	.5	.7	.8	.7	.7	.5	.5	.5	.5	.5	.5	.5	.6	.6	.6

Figure 37. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-7 (300 hPa)
NOAA15, using all observations



.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.5	.5	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4
.4	.4	.4	.4	.5	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.5	.5	.4	.4
.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.5	.5	.5	.5	.4	.4	.4	.5	.4	.4
.5	.4	.4	.4	.5	.4	.4	.5	.4	.5	.5	.4	.4	.4	.4	.4	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.5	.4	.5	.4	.4
.5	.5	.4	.5	.5	.5	.4	.5	.4	.5	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
.5	.5	.4	.4	.5	.4	.5	.5	.4	.5	.4	.5	.4	.4	.5	.4	.5	.4	.5	.5	.4	.4	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5
.5	.5	.5	.5	.5	.4	.5	.5	.4	.5	.5	.4	.4	.4	.5	.4	.4	.4	.4	.5	.4	.4	.5	.4	.5	.5	.5	.5	.4	.5	.5	.5	.5	.5	.5	.5
.5	.5	.4	.5	.5	.4	.5	.4	.4	.4	.4	.5	.4	.4	.5	.4	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.4	.5	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4
.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.5	.5	.4	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.4	.4	.4	.4	.4	.4	.5	.4

Figure 38. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations



.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0
.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.4	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.1	.2	.1	.1	.1	.1	.1	.2	.2	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.2	.2	.2	.2	.2	.1	.2	.2	.1	.1	.0	.0	.0	.0	.1	.1	.2	.2	.2	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.2	.2
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.1
-.1	-.2	-.2	-.1	.0	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	-.1	.0	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1
-.2	-.2	-.3	-.2	-.2	-.3	-.4	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.2	-.2	-.3	-.3	-.2	-.2	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.3	-.3
-.3	-.3	-.3	-.3	-.3	-.5	-.5	-.4	-.4	-.3	-.3	-.3	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.4	-.3
-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4
-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.5	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.7	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.4	-.4
-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.4	-.3
-.3	-.3	-.2	-.3	-.3	-.3	-.2	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.3	-.3
-.1	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.2	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.1
.1	.1	.1	.1	.0	.1	.1	.1	.1	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	.1	.0
.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.2	.2	.2	.1	.1
.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.3	.3	.3	.2	.2	.2	.1
.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.1	.1	.1	.1	.1	.1	.2
.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.1	.1	.1	.2	.2	.2	.2	.3	.3

Figure 39. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-9 (100 hPa)
NOAA15, using all observations

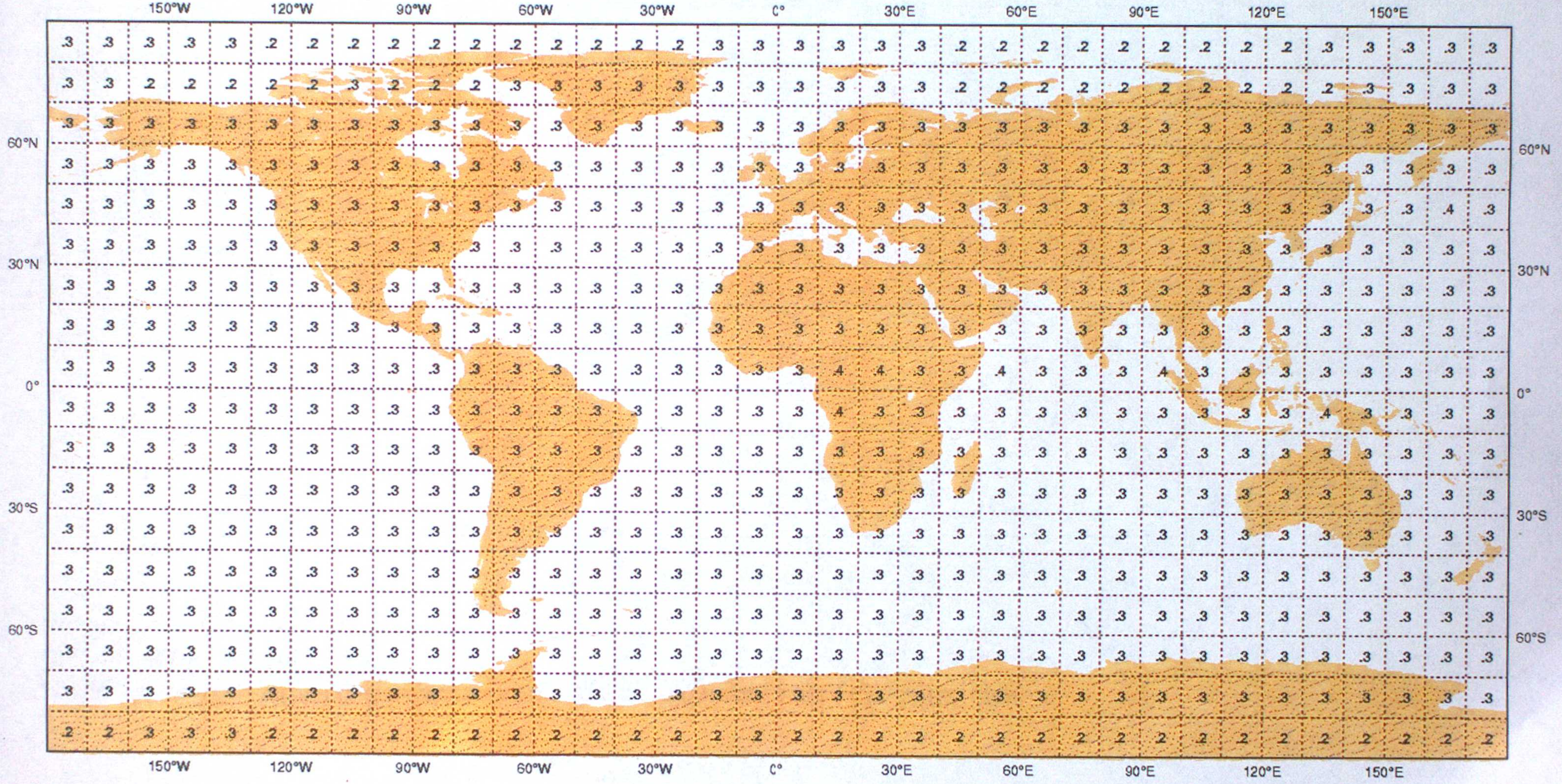
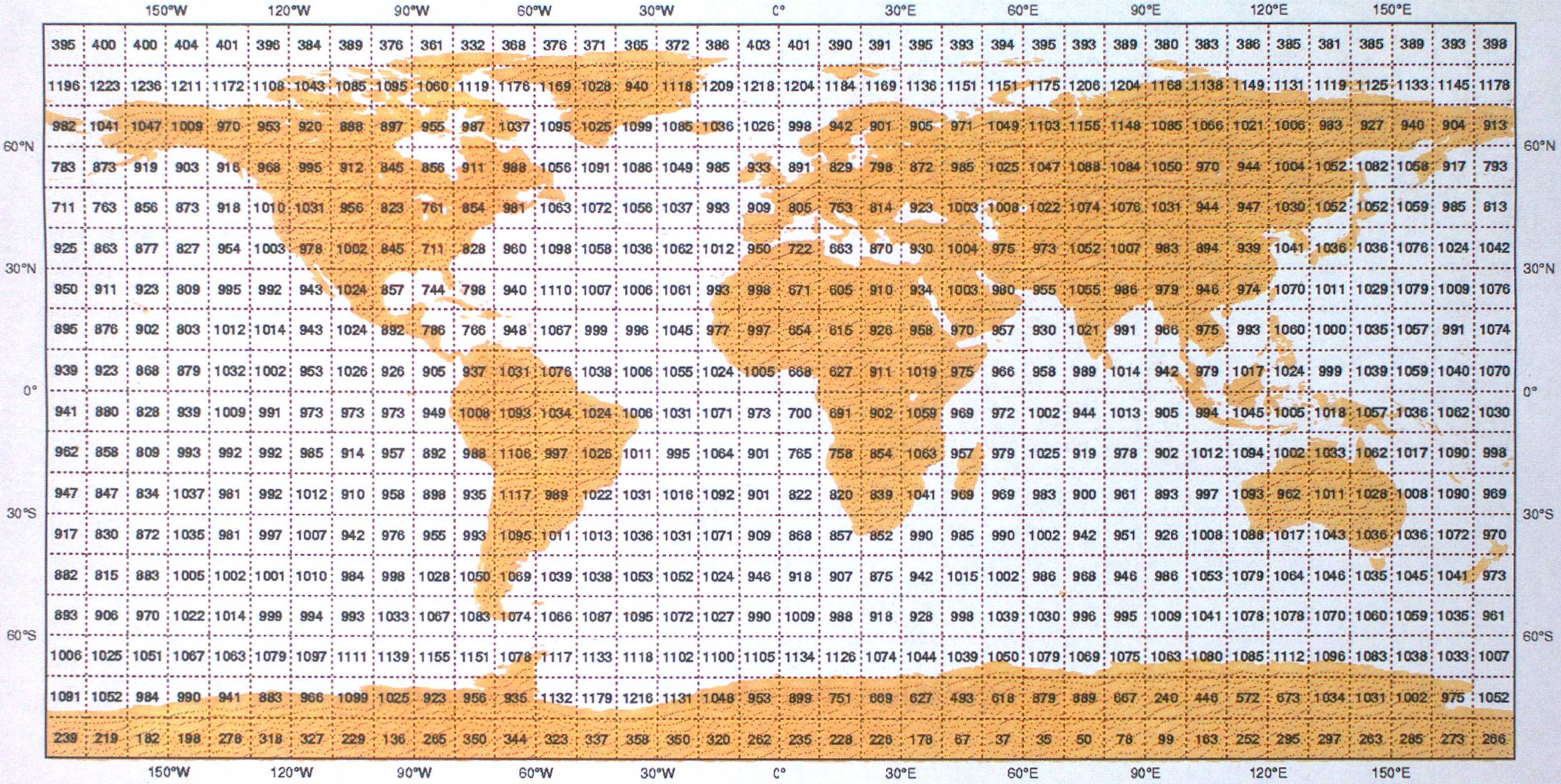
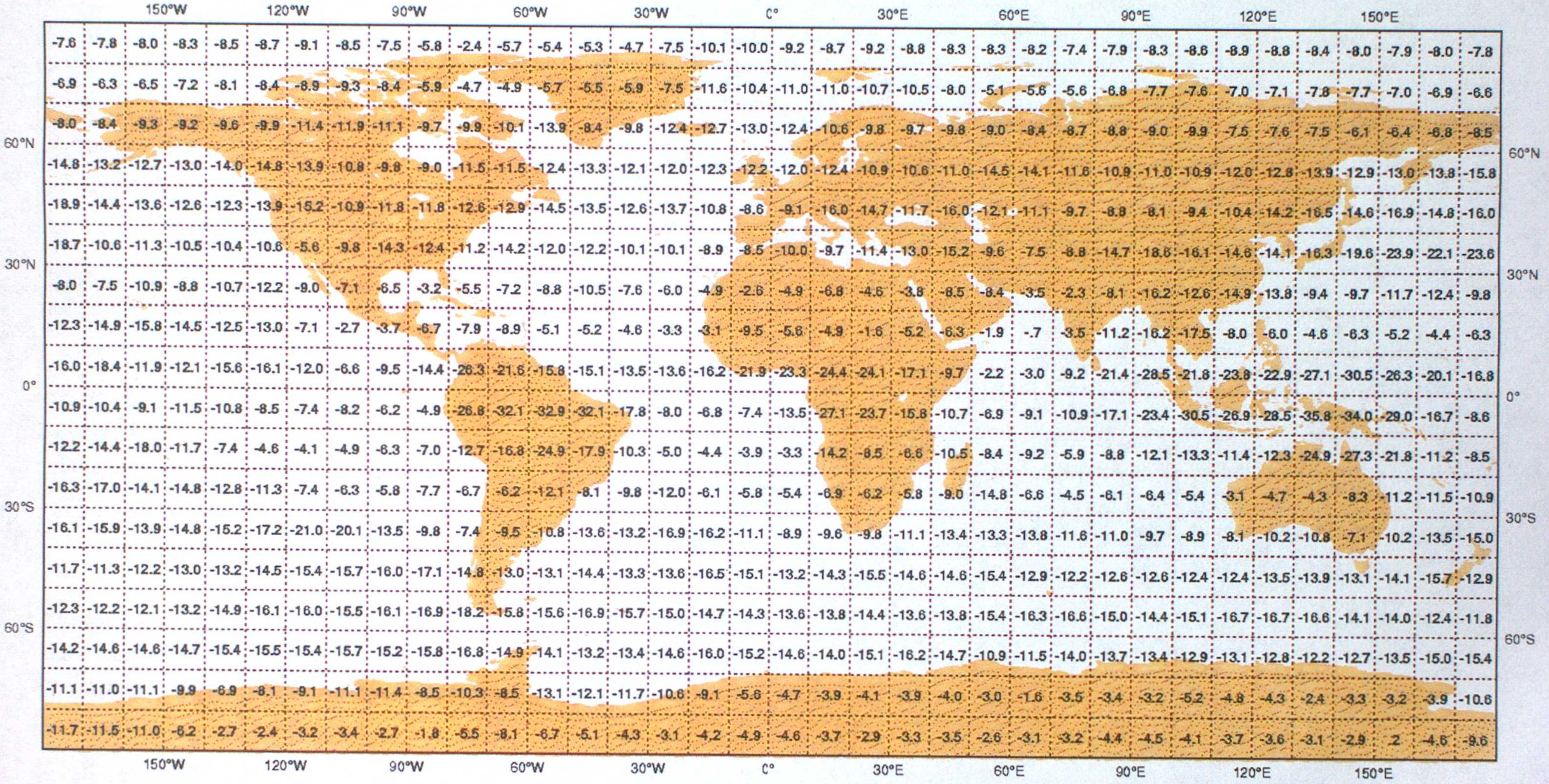

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .3 .3 .3 .3 .3 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .3 .3 .3 .3 .3
.3 .3 .2 .2 .2 .2 .2 .3 .2 .2 .2 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .4 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.2 .2 .3 .3 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2

Figure 40. ATOVS mean daily count. APRIL 2006
NOAA16, using all observations
Global average number of observations in 24 hours = 589514



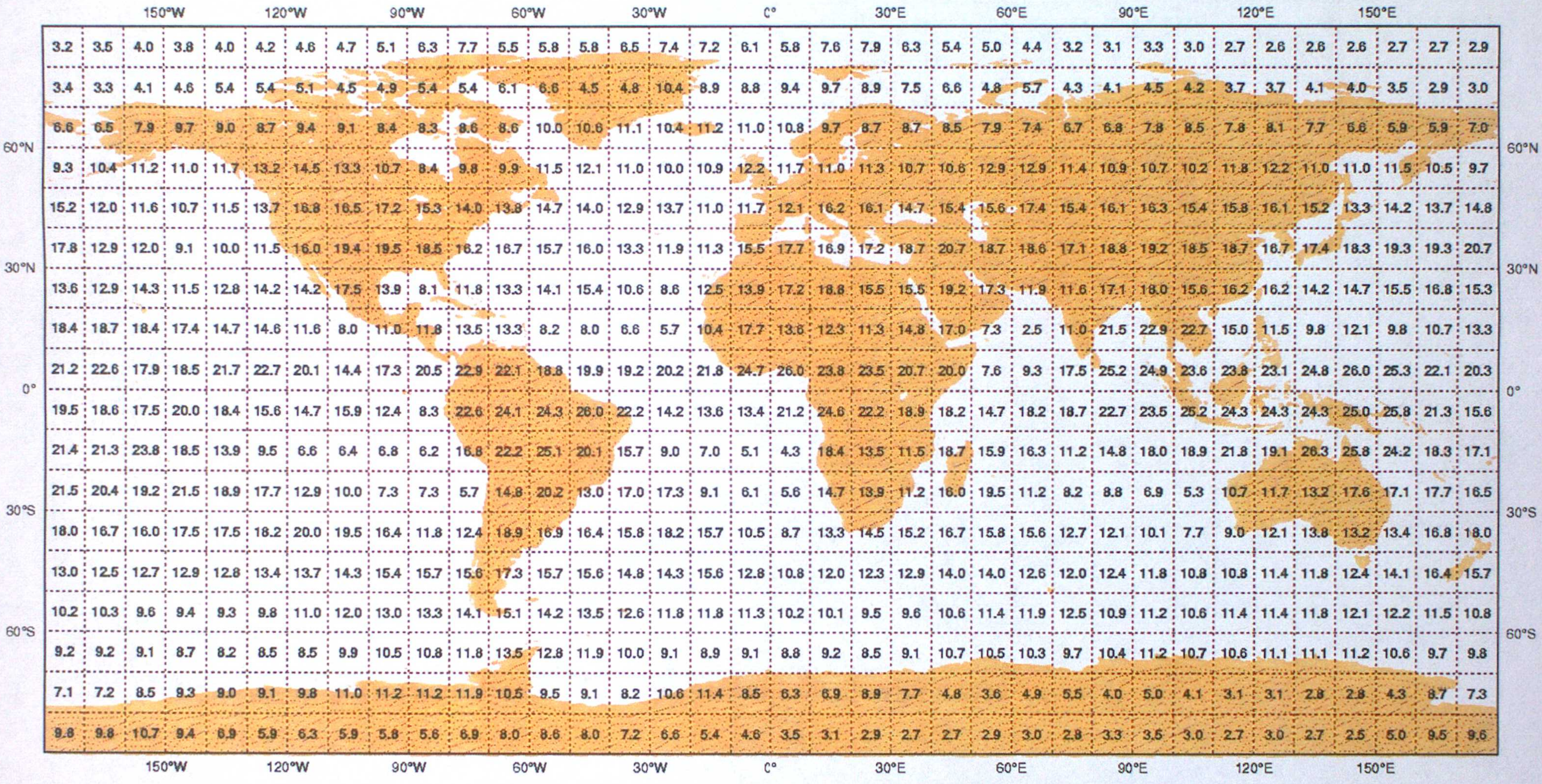
395	400	400	404	401	396	384	389	376	361	332	368	376	371	365	372	386	403	401	390	391	395	393	394	395	393	389	380	383	386	385	381	385	389	393	398
1196	1223	1236	1211	1172	1108	1043	1085	1095	1060	1119	1176	1169	1028	940	1118	1209	1218	1204	1184	1169	1136	1151	1151	1175	1206	1204	1168	1138	1149	1131	1119	1125	1133	1145	1178
982	1041	1047	1009	970	953	920	888	897	955	987	1037	1095	1025	1099	1085	1036	1026	998	942	901	905	971	1049	1103	1155	1148	1085	1066	1021	1006	983	927	940	904	913
783	873	919	903	916	968	995	912	845	856	911	988	1056	1091	1086	1049	985	933	891	829	798	872	985	1025	1047	1088	1084	1050	970	944	1004	1052	1082	1058	917	793
711	763	856	873	918	1010	1031	956	823	761	854	981	1063	1072	1056	1037	993	909	805	753	814	923	1003	1008	1022	1074	1076	1031	944	947	1030	1052	1052	1059	985	813
925	863	877	827	954	1003	978	1002	845	711	828	960	1098	1058	1036	1062	1012	950	722	663	870	930	1004	975	973	1052	1007	983	894	939	1041	1036	1036	1076	1024	1042
950	911	923	809	995	992	943	1024	857	744	798	940	1110	1007	1006	1061	993	998	671	605	910	934	1003	980	955	1055	986	979	946	974	1070	1011	1029	1079	1009	1076
895	876	902	803	1012	1014	943	1024	892	786	766	948	1067	999	996	1045	977	997	654	615	926	958	970	957	930	1021	991	966	975	993	1060	1000	1035	1057	991	1074
939	923	868	879	1032	1002	953	1026	926	905	937	1031	1076	1038	1006	1055	1024	1005	668	627	911	1019	975	966	958	989	1014	942	979	1017	1024	999	1039	1059	1040	1070
941	880	828	939	1009	991	973	973	973	949	1008	1093	1034	1024	1006	1031	1071	973	700	691	902	1059	969	972	1002	944	1013	905	994	1045	1005	1018	1057	1036	1062	1030
962	858	809	993	992	992	985	914	957	892	988	1106	997	1026	1011	995	1064	901	765	758	854	1063	957	979	1025	919	978	902	1012	1094	1002	1033	1062	1017	1090	998
947	847	834	1037	981	992	1012	910	958	898	935	1117	989	1022	1031	1016	1092	901	822	820	839	1041	969	969	983	900	961	893	997	1093	962	1011	1028	1008	1090	969
917	830	872	1035	981	997	1007	942	976	955	993	1095	1011	1013	1036	1031	1071	909	868	857	852	990	985	990	1002	942	951	926	1008	1088	1017	1043	1036	1036	1072	970
882	815	883	1005	1002	1001	1010	984	998	1028	1050	1069	1039	1038	1053	1052	1024	946	918	907	875	942	1015	1002	986	968	946	986	1053	1079	1064	1046	1035	1045	1041	973
893	906	970	1022	1014	999	994	993	1033	1067	1083	1074	1066	1087	1095	1072	1027	990	1009	988	918	928	998	1039	1030	996	995	1009	1041	1078	1078	1070	1060	1059	1035	961
1006	1025	1051	1067	1063	1079	1097	1111	1139	1155	1151	1078	1117	1133	1118	1102	1100	1105	1134	1126	1074	1044	1039	1050	1079	1069	1075	1063	1080	1085	1112	1096	1083	1038	1033	1007
1091	1052	984	990	941	883	966	1099	1025	923	956	935	1132	1179	1216	1131	1048	953	899	751	669	627	493	618	879	889	667	240	446	572	673	1034	1031	1002	975	1052
239	219	182	198	278	318	327	229	136	265	350	344	323	337	358	350	320	262	235	228	226	178	67	37	35	50	78	99	163	252	295	297	263	285	273	266

Figure 41. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations



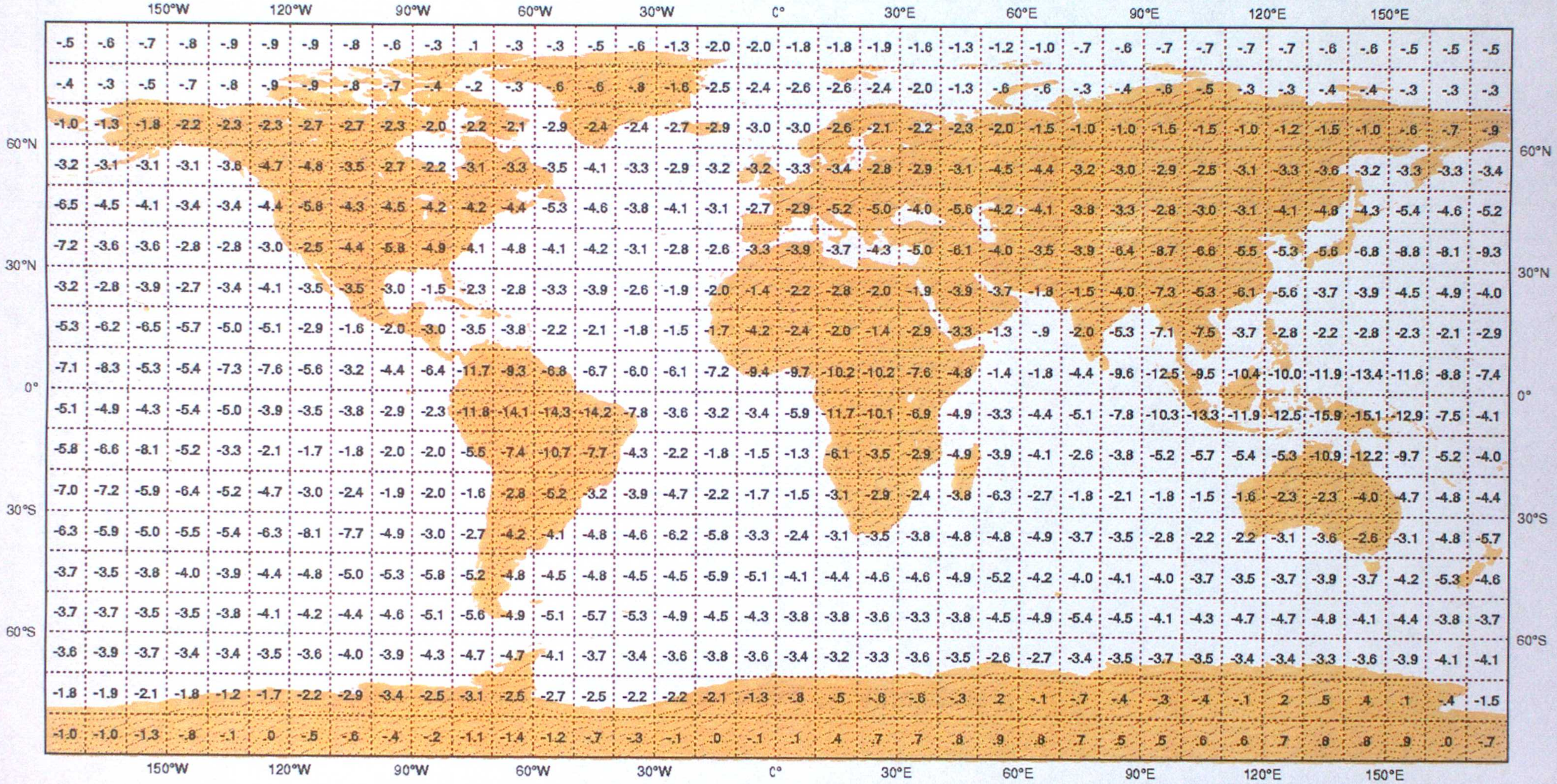
-7.6	-7.8	-8.0	-8.3	-8.5	-8.7	-9.1	-8.5	-7.5	-5.8	-2.4	-5.7	-5.4	-5.3	-4.7	-7.5	-10.1	-10.0	-9.2	-8.7	-9.2	-8.8	-8.3	-8.3	-8.2	-7.4	-7.9	-8.3	-8.6	-8.9	-8.8	-8.4	-8.0	-7.9	-8.0	-7.8
-6.9	-6.3	-6.5	-7.2	-8.1	-8.4	-8.9	-9.3	-8.4	-5.9	-4.7	-4.9	-5.7	-5.5	-5.9	-7.5	-11.6	-10.4	-11.0	-11.0	-10.7	-10.5	-8.0	-5.1	-5.6	-5.6	-6.8	-7.7	-7.6	-7.0	-7.1	-7.8	-7.7	-7.0	-6.9	-6.6
-8.0	-8.4	-9.3	-9.2	-9.6	-9.9	-11.4	-11.9	-11.1	-9.7	-9.9	-10.1	-13.9	-8.4	-9.8	-12.4	-12.7	-13.0	-12.4	-10.6	-9.8	-9.7	-9.8	-9.0	-8.4	-8.7	-8.8	-9.0	-9.9	-7.5	-7.6	-7.5	-6.1	-6.4	-6.8	-8.5
-14.8	-13.2	-12.7	-13.0	-14.0	-14.8	-13.9	-10.8	-9.8	-9.0	-11.5	-11.5	-12.4	-13.3	-12.1	-12.0	-12.3	-12.2	-12.0	-12.4	-10.9	-10.6	-11.0	-14.5	-14.1	-11.6	-10.9	-11.0	-10.9	-12.0	-12.8	-13.9	-12.9	-13.0	-13.8	-15.8
-18.9	-14.4	-13.6	-12.6	-12.3	-13.9	-15.2	-10.9	-11.8	-11.8	-12.6	-12.9	-14.5	-13.5	-12.6	-13.7	-10.8	-8.6	-9.1	-16.0	-14.7	-11.7	-16.0	-12.1	-11.1	-9.7	-8.8	-8.1	-9.4	-10.4	-14.2	-16.5	-14.6	-16.9	-14.8	-16.0
-18.7	-10.6	-11.3	-10.5	-10.4	-10.6	-5.6	-9.8	-14.3	-12.4	-11.2	-14.2	-12.0	-12.2	-10.1	-10.1	-8.9	-8.5	-10.0	-9.7	-11.4	-13.0	-15.2	-9.6	-7.5	-8.8	-14.7	-18.6	-16.1	-14.6	-14.1	-16.3	-19.6	-23.9	-22.1	-23.6
-8.0	-7.5	-10.9	-8.8	-10.7	-12.2	-9.0	-7.1	-6.5	-3.2	-5.5	-7.2	-8.8	-10.5	-7.6	-6.0	-4.9	-2.6	-4.9	-6.8	-4.6	-3.8	-8.5	-8.4	-3.5	-2.3	-8.1	-16.2	-12.6	-14.9	-13.8	-9.4	-9.7	-11.7	-12.4	-9.8
-12.3	-14.9	-15.8	-14.5	-12.5	-13.0	-7.1	-2.7	-3.7	-6.7	-7.9	-8.9	-5.1	-5.2	-4.6	-3.3	-3.1	-9.5	-5.6	-4.9	-1.6	-5.2	-6.3	-1.9	-.7	-3.5	-11.2	-16.2	-17.5	-8.0	-6.0	-4.6	-6.3	-5.2	-4.4	-6.3
-16.0	-18.4	-11.9	-12.1	-15.6	-16.1	-12.0	-6.6	-9.5	-14.4	-26.3	-21.6	-15.8	-15.1	-13.5	-13.6	-16.2	-21.9	-23.3	-24.4	-24.1	-17.1	-9.7	-2.2	-3.0	-9.2	-21.4	-28.5	-21.8	-23.8	-22.9	-27.1	-30.5	-26.3	-20.1	-16.8
-10.9	-10.4	-9.1	-11.5	-10.8	-8.5	-7.4	-8.2	-6.2	-4.9	-26.8	-32.1	-32.9	-32.1	-17.8	-8.0	-6.8	-7.4	-13.5	-27.1	-23.7	-15.8	-10.7	-6.9	-9.1	-10.9	-17.1	-23.4	-30.5	-26.9	-28.5	-35.8	-34.0	-29.0	-16.7	-8.6
-12.2	-14.4	-18.0	-11.7	-7.4	-4.6	-4.1	-4.9	-6.3	-7.0	-12.7	-16.8	-24.9	-17.9	-10.3	-5.0	-4.4	-3.9	-3.3	-14.2	-8.5	-6.6	-10.5	-8.4	-9.2	-5.9	-8.8	-12.1	-13.3	-11.4	-12.3	-24.9	-27.3	-21.8	-11.2	-8.5
-16.3	-17.0	-14.1	-14.8	-12.8	-11.3	-7.4	-6.3	-5.8	-7.7	-6.7	-6.2	-12.1	-8.1	-9.8	-12.0	-6.1	-5.8	-5.4	-6.9	-6.2	-5.8	-9.0	-14.8	-6.6	-4.5	-6.1	-6.4	-5.4	-3.1	-4.7	-4.3	-8.3	-11.2	-11.5	-10.9
-16.1	-15.9	-13.9	-14.8	-15.2	-17.2	-21.0	-20.1	-13.5	-9.8	-7.4	-9.5	-10.8	-13.6	-13.2	-16.9	-16.2	-11.1	-8.9	-9.6	-9.8	-11.1	-13.4	-13.3	-13.8	-11.6	-11.0	-9.7	-8.9	-8.1	-10.2	-10.8	-7.1	-10.2	-13.5	-15.0
-11.7	-11.3	-12.2	-13.0	-13.2	-14.5	-15.4	-15.7	-16.0	-17.1	-14.8	-13.0	-13.1	-14.4	-13.3	-13.6	-16.5	-15.1	-13.2	-14.3	-15.5	-14.6	-14.6	-15.4	-12.9	-12.2	-12.6	-12.6	-12.4	-12.4	-13.5	-13.9	-13.1	-14.1	-15.7	-12.9
-12.3	-12.2	-12.1	-13.2	-14.9	-16.1	-16.0	-15.5	-16.1	-16.9	-18.2	-15.8	-15.6	-16.9	-15.7	-15.0	-14.7	-14.3	-13.6	-13.8	-14.4	-13.6	-13.8	-15.4	-16.3	-16.6	-15.0	-14.4	-15.1	-16.7	-16.7	-16.6	-14.1	-14.0	-12.4	-11.8
-14.2	-14.6	-14.6	-14.7	-15.4	-15.5	-15.4	-15.7	-15.2	-15.8	-16.8	-14.9	-14.1	-13.2	-13.4	-14.6	-16.0	-15.2	-14.6	-14.0	-15.1	-16.2	-14.7	-10.9	-11.5	-14.0	-13.7	-13.4	-12.9	-13.1	-12.8	-12.2	-12.7	-13.5	-15.0	-15.4
-11.1	-11.0	-11.1	-9.9	-6.9	-8.1	-9.1	-11.1	-11.4	-8.5	-10.3	-8.5	-13.1	-12.1	-11.7	-10.6	-9.1	-5.6	-4.7	-3.9	-4.1	-3.9	-4.0	-3.0	-1.6	-3.5	-3.4	-3.2	-5.2	-4.8	-4.3	-2.4	-3.3	-3.2	-3.9	-10.6
-11.7	-11.5	-11.0	-6.2	-2.7	-2.4	-3.2	-3.4	-2.7	-1.8	-5.5	-8.1	-6.7	-5.1	-4.3	-3.1	-4.2	-4.9	-4.6	-3.7	-2.9	-3.3	-3.5	-2.6	-3.1	-3.2	-4.4	-4.5	-4.1	-3.7	-3.6	-3.1	-2.9	2	-4.6	-9.6

Figure 42. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS8 (Surface)
NOAA16, using all observations



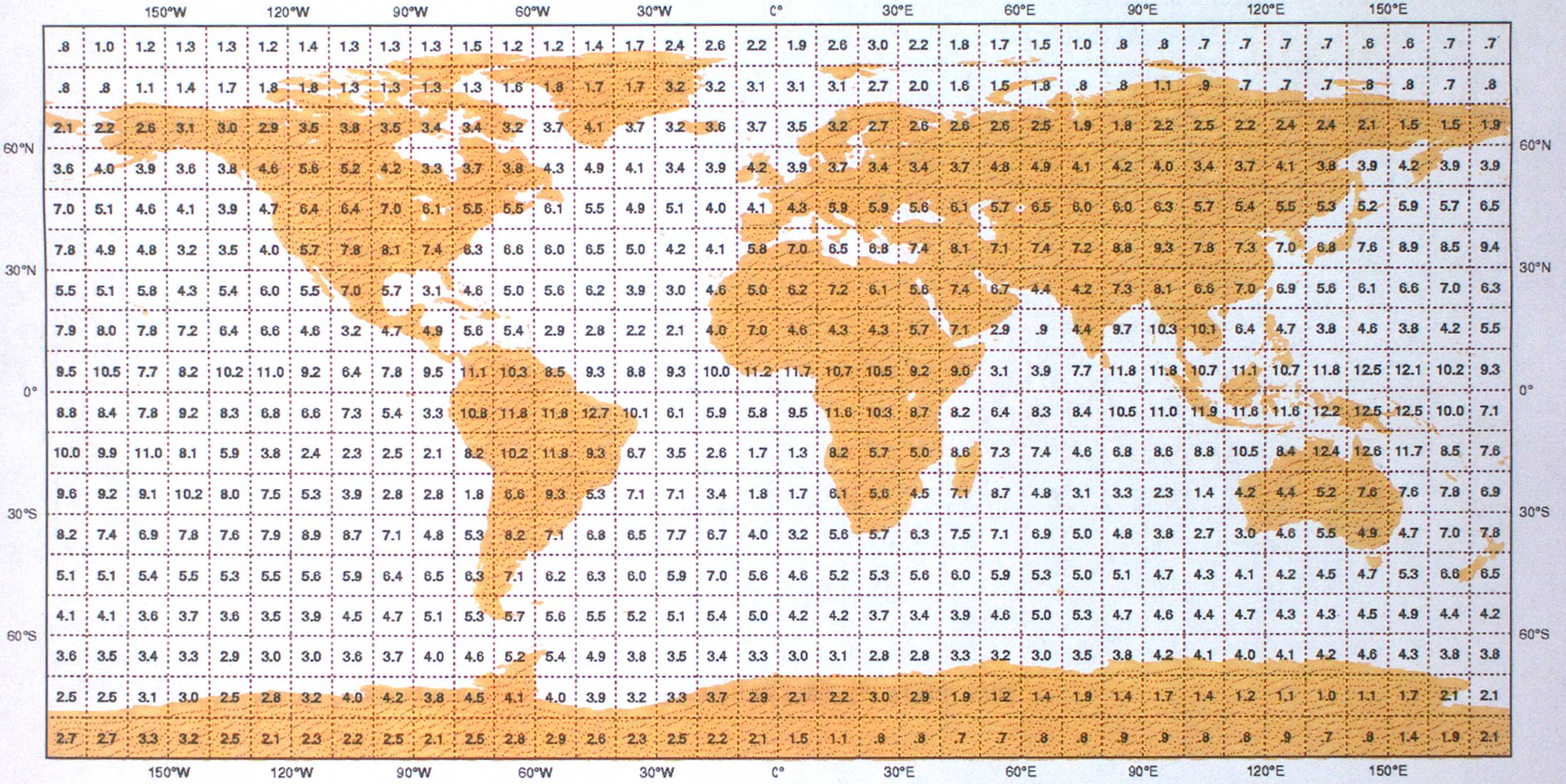
3.2	3.5	4.0	3.8	4.0	4.2	4.6	4.7	5.1	6.3	7.7	5.5	5.8	5.8	6.5	7.4	7.2	6.1	5.8	7.6	7.9	6.3	5.4	5.0	4.4	3.2	3.1	3.3	3.0	2.7	2.6	2.6	2.6	2.7	2.7	2.9
3.4	3.3	4.1	4.6	5.4	5.4	5.1	4.5	4.9	5.4	5.4	6.1	6.6	4.5	4.8	10.4	8.9	8.8	9.4	9.7	8.9	7.5	6.6	4.8	5.7	4.3	4.1	4.5	4.2	3.7	3.7	4.1	4.0	3.5	2.9	3.0
6.6	6.5	7.9	9.7	9.0	8.7	9.4	9.1	8.4	8.3	8.6	8.6	10.0	10.6	11.1	10.4	11.2	11.0	10.8	9.7	8.7	8.7	8.5	7.9	7.4	6.7	6.8	7.8	8.5	7.8	8.1	7.7	6.6	5.9	5.9	7.0
9.3	10.4	11.2	11.0	11.7	13.2	14.5	13.3	10.7	8.4	9.8	9.9	11.5	12.1	11.0	10.0	10.9	12.2	11.7	11.0	11.3	10.7	10.6	12.9	12.9	11.4	10.9	10.7	10.2	11.8	12.2	11.0	11.0	11.5	10.5	9.7
15.2	12.0	11.6	10.7	11.5	13.7	16.8	16.5	17.2	15.3	14.0	13.8	14.7	14.0	12.9	13.7	11.0	11.7	12.1	16.2	16.1	14.7	15.4	15.6	17.4	15.4	16.1	16.3	15.4	15.8	16.1	15.2	13.3	14.2	13.7	14.8
17.8	12.9	12.0	9.1	10.0	11.5	16.0	19.4	19.5	18.5	16.2	16.7	15.7	16.0	13.3	11.9	11.3	15.5	17.7	16.9	17.2	18.7	20.7	18.7	18.6	17.1	18.8	19.2	18.5	18.7	16.7	17.4	18.3	19.3	19.3	20.7
13.6	12.9	14.3	11.5	12.8	14.2	14.2	17.5	13.9	8.1	11.8	13.3	14.1	15.4	10.6	8.6	12.5	13.9	17.2	18.8	15.5	15.5	19.2	17.3	11.9	11.6	17.1	18.0	15.6	16.2	16.2	14.2	14.7	15.5	16.8	15.3
18.4	18.7	18.4	17.4	14.7	14.6	11.6	8.0	11.0	11.8	13.5	13.3	8.2	8.0	6.6	5.7	10.4	17.7	13.6	12.3	11.3	14.8	17.0	7.3	2.5	11.0	21.5	22.9	22.7	15.0	11.5	9.8	12.1	9.8	10.7	13.3
21.2	22.6	17.9	18.5	21.7	22.7	20.1	14.4	17.3	20.5	22.9	22.1	18.8	19.9	19.2	20.2	21.8	24.7	26.0	23.8	23.5	20.7	20.0	7.6	9.3	17.5	25.2	24.9	23.6	23.8	23.1	24.8	26.0	25.3	22.1	20.3
19.5	18.6	17.5	20.0	18.4	15.6	14.7	15.9	12.4	8.3	22.6	24.1	24.3	26.0	22.2	14.2	13.6	13.4	21.2	24.6	22.2	18.9	18.2	14.7	18.2	18.7	22.7	23.5	25.2	24.3	24.3	24.3	25.0	25.8	21.3	15.6
21.4	21.3	23.8	18.5	13.9	9.5	6.6	6.4	6.8	6.2	16.8	22.2	25.1	20.1	15.7	9.0	7.0	5.1	4.3	18.4	13.5	11.5	18.7	15.9	16.3	11.2	14.8	18.0	18.9	21.8	19.1	26.3	25.8	24.2	18.3	17.1
21.5	20.4	19.2	21.5	18.9	17.7	12.9	10.0	7.3	7.3	5.7	14.8	20.2	13.0	17.0	17.3	9.1	6.1	5.6	14.7	13.9	11.2	16.0	19.5	11.2	8.2	8.8	6.9	5.3	10.7	11.7	13.2	17.6	17.1	17.7	16.5
18.0	16.7	16.0	17.5	17.5	18.2	20.0	19.5	16.4	11.8	12.4	18.9	16.9	16.4	15.8	18.2	15.7	10.5	8.7	13.3	14.5	15.2	16.7	15.8	15.6	12.7	12.1	10.1	7.7	9.0	12.1	13.8	13.2	13.4	16.8	18.0
13.0	12.5	12.7	12.9	12.8	13.4	13.7	14.3	15.4	15.7	15.6	17.3	15.7	15.6	14.8	14.3	15.6	12.8	10.8	12.0	12.3	12.9	14.0	14.0	12.6	12.0	12.4	11.8	10.8	10.8	11.4	11.8	12.4	14.1	16.4	15.7
10.2	10.3	9.6	9.4	9.3	9.8	11.0	12.0	13.0	13.3	14.1	15.1	14.2	13.5	12.6	11.8	11.8	11.3	10.2	10.1	9.5	9.6	10.6	11.4	11.9	12.5	10.9	11.2	10.6	11.4	11.4	11.8	12.1	12.2	11.5	10.8
9.2	9.2	9.1	8.7	8.2	8.5	8.5	9.9	10.5	10.8	11.8	13.5	12.8	11.9	10.0	9.1	8.9	9.1	8.8	9.2	8.5	9.1	10.7	10.5	10.3	9.7	10.4	11.2	10.7	10.6	11.1	11.1	11.2	10.6	9.7	9.8
7.1	7.2	8.5	9.3	9.0	9.1	9.8	11.0	11.2	11.2	11.9	10.5	9.5	9.1	8.2	10.6	11.4	8.5	6.3	6.9	8.9	7.7	4.8	3.6	4.9	5.5	4.0	5.0	4.1	3.1	3.1	2.8	2.8	4.3	8.7	7.3
9.8	9.8	10.7	9.4	6.9	5.9	6.3	5.9	5.8	5.6	6.9	8.0	8.6	8.0	7.2	6.6	5.4	4.6	3.5	3.1	2.9	2.7	2.7	2.9	3.0	2.8	3.3	3.5	3.0	2.7	3.0	2.7	2.5	5.0	9.5	9.6

Figure 43. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



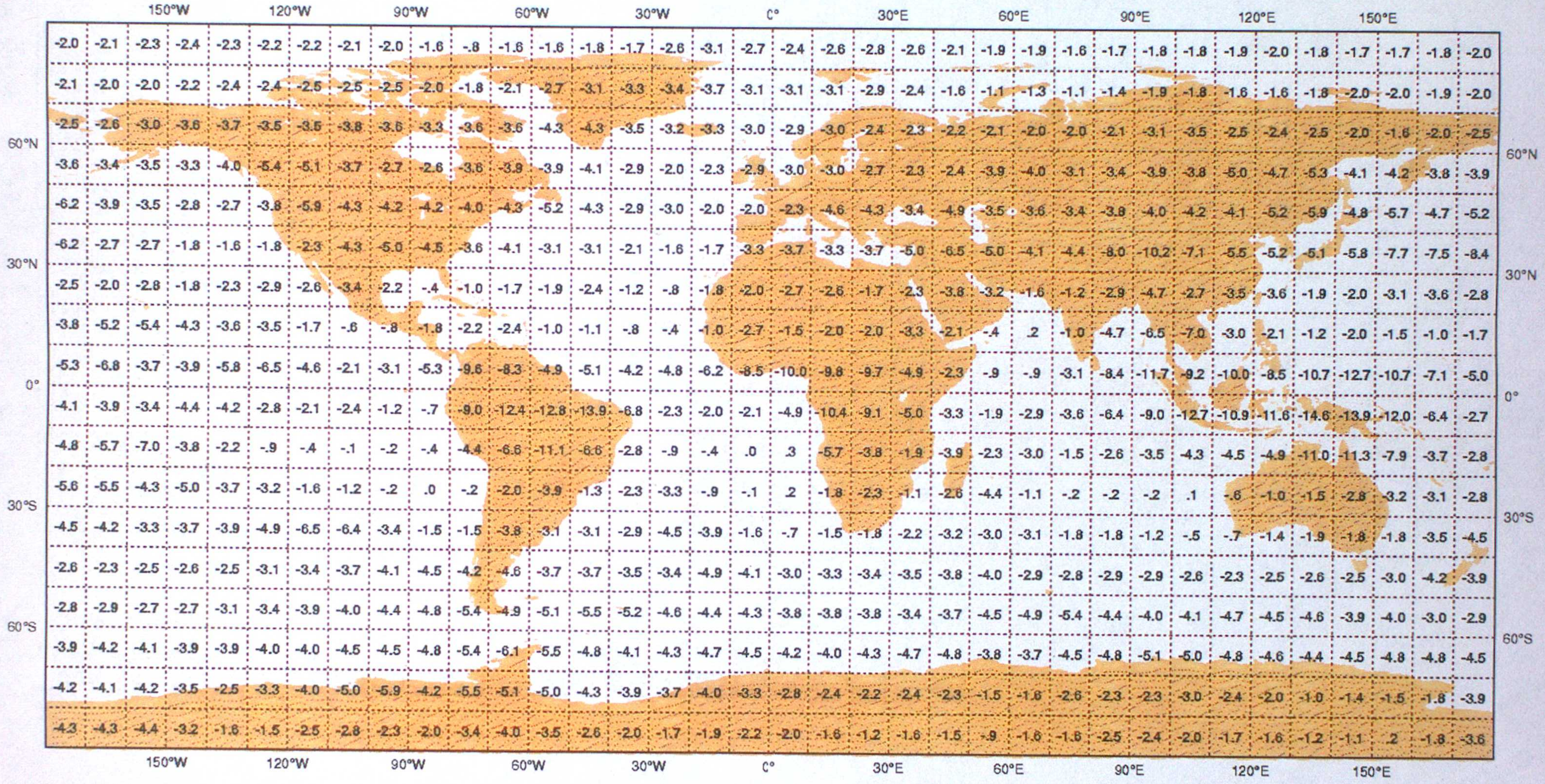
-.5	-.6	-.7	-.8	-.9	-.9	-.9	-.8	-.6	-.3	.1	-.3	-.3	-.5	-.6	-1.3	-2.0	-2.0	-1.8	-1.8	-1.9	-1.6	-1.3	-1.2	-1.0	-.7	-.6	-.7	-.7	-.7	-.7	-.6	-.6	-.5	-.5	-.5
-.4	-.3	-.5	-.7	-.8	-.9	-.9	-.8	-.7	-.4	-.2	-.3	-.6	-.6	-.8	-1.6	-2.5	-2.4	-2.6	-2.6	-2.4	-2.0	-1.3	-.6	-.6	-.3	-.4	-.6	-.5	-.3	-.3	-.4	-.4	-.3	-.3	-.3
-1.0	-1.3	-1.8	-2.2	-2.3	-2.3	-2.7	-2.7	-2.3	-2.0	-2.2	-2.1	-2.9	-2.4	-2.4	-2.7	-2.9	-3.0	-3.0	-2.6	-2.1	-2.2	-2.3	-2.0	-1.5	-1.0	-1.0	-1.5	-1.5	-1.0	-1.2	-1.5	-1.0	-.6	-.7	-.9
-3.2	-3.1	-3.1	-3.1	-3.6	-4.7	-4.8	-3.5	-2.7	-2.2	-3.1	-3.3	-3.5	-4.1	-3.3	-2.9	-3.2	-3.2	-3.3	-3.4	-2.8	-2.9	-3.1	-4.5	-4.4	-3.2	-3.0	-2.9	-2.5	-3.1	-3.3	-3.6	-3.2	-3.3	-3.3	-3.4
-6.5	-4.5	-4.1	-3.4	-3.4	-4.4	-5.8	-4.3	-4.5	-4.2	-4.2	-4.4	-5.3	-4.6	-3.8	-4.1	-3.1	-2.7	-2.9	-5.2	-5.0	-4.0	-5.6	-4.2	-4.1	-3.8	-3.3	-2.8	-3.0	-3.1	-4.1	-4.8	-4.3	-5.4	-4.6	-5.2
-7.2	-3.6	-3.6	-2.8	-2.8	-3.0	-2.5	-4.4	-5.8	-4.9	-4.1	-4.8	-4.1	-4.2	-3.1	-2.8	-2.6	-3.3	-3.9	-3.7	-4.3	-5.0	-6.1	-4.0	-3.5	-3.9	-6.4	-8.7	-6.6	-5.5	-5.3	-5.6	-6.8	-8.8	-8.1	-9.3
-3.2	-2.8	-3.9	-2.7	-3.4	-4.1	-3.5	-3.5	-3.0	-1.5	-2.3	-2.8	-3.3	-3.9	-2.6	-1.9	-2.0	-1.4	-2.2	-2.8	-2.0	-1.9	-3.9	-3.7	-1.8	-1.5	-4.0	-7.3	-5.3	-6.1	-5.6	-3.7	-3.9	-4.5	-4.9	-4.0
-5.3	-6.2	-6.5	-5.7	-5.0	-5.1	-2.9	-1.6	-2.0	-3.0	-3.5	-3.8	-2.2	-2.1	-1.8	-1.5	-1.7	-4.2	-2.4	-2.0	-1.4	-2.9	-3.3	-1.3	-.9	-2.0	-5.3	-7.1	-7.5	-3.7	-2.8	-2.2	-2.8	-2.3	-2.1	-2.9
-7.1	-8.3	-5.3	-5.4	-7.3	-7.6	-5.6	-3.2	-4.4	-6.4	-11.7	-9.3	-6.8	-6.7	-6.0	-6.1	-7.2	-9.4	-9.7	-10.2	-10.2	-7.6	-4.8	-1.4	-1.8	-4.4	-9.6	-12.5	-9.5	-10.4	-10.0	-11.9	-13.4	-11.6	-8.8	-7.4
-5.1	-4.9	-4.3	-5.4	-5.0	-3.9	-3.5	-3.8	-2.9	-2.3	-11.8	-14.1	-14.3	-14.2	-7.8	-3.6	-3.2	-3.4	-5.9	-11.7	-10.1	-6.9	-4.9	-3.3	-4.4	-5.1	-7.8	-10.3	-13.3	-11.9	-12.5	-15.9	-15.1	-12.9	-7.5	-4.1
-5.8	-6.6	-8.1	-5.2	-3.3	-2.1	-1.7	-1.8	-2.0	-2.0	-5.5	-7.4	-10.7	-7.7	-4.3	-2.2	-1.8	-1.5	-1.3	-6.1	-3.5	-2.9	-4.9	-3.9	-4.1	-2.6	-3.8	-5.2	-5.7	-5.4	-5.3	-10.9	-12.2	-9.7	-5.2	-4.0
-7.0	-7.2	-5.9	-6.4	-5.2	-4.7	-3.0	-2.4	-1.9	-2.0	-1.6	-2.8	-5.2	-3.2	-3.9	-4.7	-2.2	-1.7	-1.5	-3.1	-2.9	-2.4	-3.8	-6.3	-2.7	-1.8	-2.1	-1.8	-1.5	-1.6	-2.3	-2.3	-4.0	-4.7	-4.8	-4.4
-6.3	-5.9	-5.0	-5.5	-5.4	-6.3	-8.1	-7.7	-4.9	-3.0	-2.7	-4.2	-4.1	-4.8	-4.6	-6.2	-5.8	-3.3	-2.4	-3.1	-3.5	-3.8	-4.8	-4.8	-4.9	-3.7	-3.5	-2.8	-2.2	-2.2	-3.1	-3.6	-2.6	-3.1	-4.8	-5.7
-3.7	-3.5	-3.8	-4.0	-3.9	-4.4	-4.8	-5.0	-5.3	-5.8	-5.2	-4.8	-4.5	-4.8	-4.5	-4.5	-5.9	-5.1	-4.1	-4.4	-4.6	-4.6	-4.9	-5.2	-4.2	-4.0	-4.1	-4.0	-3.7	-3.5	-3.7	-3.9	-3.7	-4.2	-5.3	-4.6
-3.7	-3.7	-3.5	-3.5	-3.8	-4.1	-4.2	-4.4	-4.6	-5.1	-5.6	-4.9	-5.1	-5.7	-5.3	-4.9	-4.5	-4.3	-3.8	-3.8	-3.6	-3.3	-3.8	-4.5	-4.9	-5.4	-4.5	-4.1	-4.3	-4.7	-4.7	-4.8	-4.1	-4.4	-3.8	-3.7
-3.6	-3.9	-3.7	-3.4	-3.4	-3.5	-3.6	-4.0	-3.9	-4.3	-4.7	-4.7	-4.1	-3.7	-3.4	-3.6	-3.8	-3.6	-3.4	-3.2	-3.3	-3.6	-3.5	-2.6	-2.7	-3.4	-3.5	-3.7	-3.5	-3.4	-3.4	-3.3	-3.6	-3.9	-4.1	-4.1
-1.8	-1.9	-2.1	-1.8	-1.2	-1.7	-2.2	-2.9	-3.4	-2.5	-3.1	-2.5	-2.7	-2.5	-2.2	-2.2	-2.1	-1.3	-.8	-.5	-.6	-.6	-.3	.2	-.1	-.7	-.4	-.3	-.4	-.1	.2	.5	.4	.1	-.4	-1.5
-1.0	-1.0	-1.3	-.8	-.1	.0	-.5	-.6	-.4	-.2	-1.1	-1.4	-1.2	-.7	-.3	-.1	.0	-.1	.1	.4	.7	.7	.8	.9	.8	.7	.5	.5	.6	.6	.7	.8	.8	.9	.0	-.7

Figure 44. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS15 (700 hPa)
NOAA16, using all observations



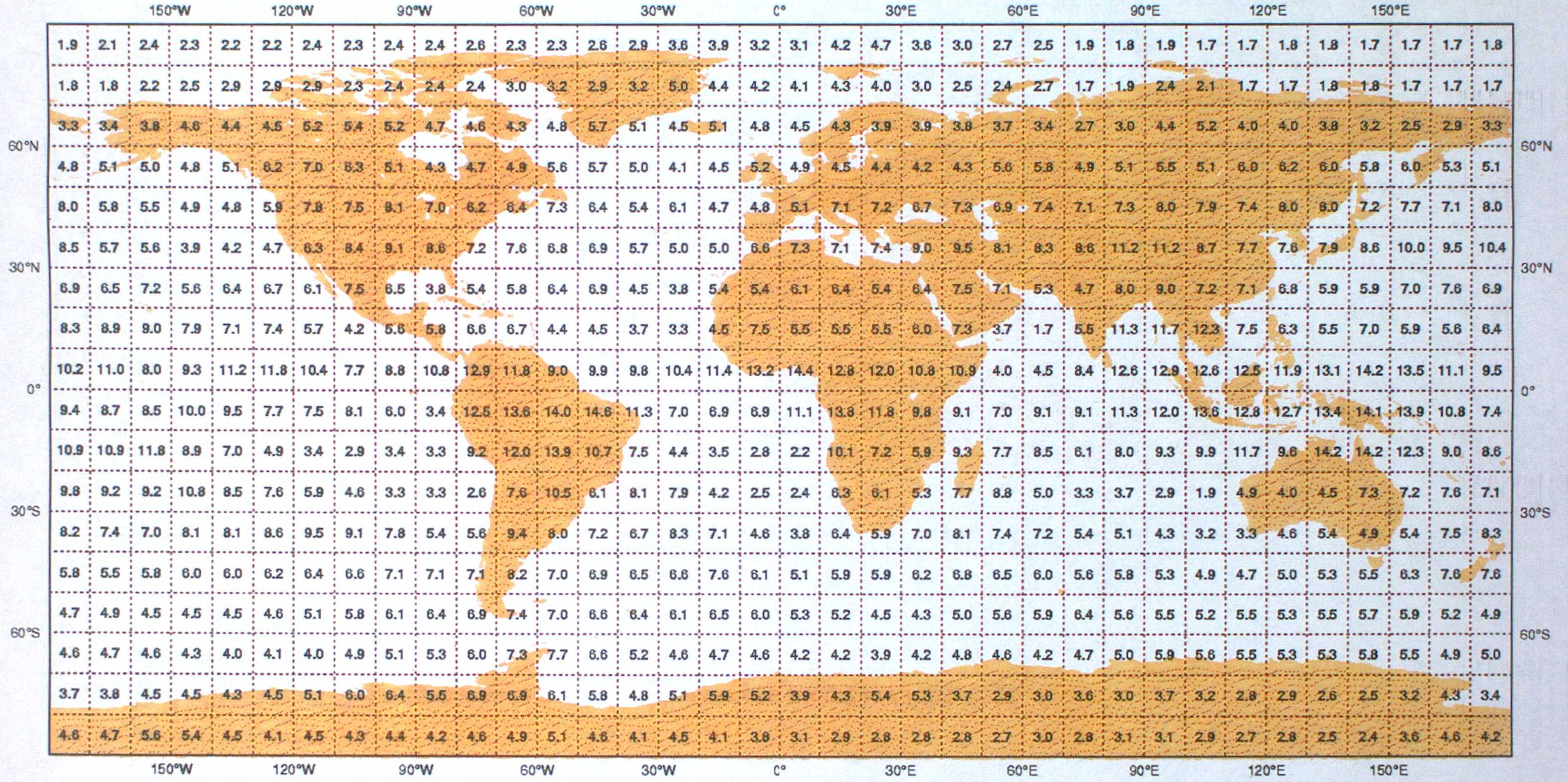
.8	1.0	1.2	1.3	1.3	1.2	1.4	1.3	1.3	1.3	1.5	1.2	1.2	1.4	1.7	2.4	2.6	2.2	1.9	2.6	3.0	2.2	1.8	1.7	1.5	1.0	.8	.8	.7	.7	.7	.7	.6	.6	.7	.7
.8	.8	1.1	1.4	1.7	1.8	1.8	1.3	1.3	1.3	1.3	1.6	1.8	1.7	1.7	3.2	3.2	3.1	3.1	3.1	2.7	2.0	1.6	1.5	1.8	.8	.8	1.1	.9	.7	.7	.7	.8	.8	.7	.8
2.1	2.2	2.6	3.1	3.0	2.9	3.5	3.8	3.5	3.4	3.4	3.2	3.7	4.1	3.7	3.2	3.6	3.7	3.5	3.2	2.7	2.6	2.6	2.6	2.5	1.9	1.8	2.2	2.5	2.2	2.4	2.4	2.1	1.5	1.5	1.9
3.6	4.0	3.9	3.6	3.8	4.6	5.6	5.2	4.2	3.3	3.7	3.8	4.3	4.9	4.1	3.4	3.9	4.2	3.9	3.7	3.4	3.4	3.7	4.8	4.9	4.1	4.2	4.0	3.4	3.7	4.1	3.8	3.9	4.2	3.9	3.9
7.0	5.1	4.6	4.1	3.9	4.7	6.4	6.4	7.0	6.1	5.5	5.5	6.1	5.5	4.9	5.1	4.0	4.1	4.3	5.9	5.9	5.6	6.1	5.7	6.5	6.0	6.0	6.3	5.7	5.4	5.5	5.3	5.2	5.9	5.7	6.5
7.8	4.9	4.8	3.2	3.5	4.0	5.7	7.8	8.1	7.4	6.3	6.6	6.0	6.5	5.0	4.2	4.1	5.8	7.0	6.5	6.8	7.4	8.1	7.1	7.4	7.2	8.8	9.3	7.8	7.3	7.0	6.8	7.6	8.9	8.5	9.4
5.5	5.1	5.8	4.3	5.4	6.0	5.5	7.0	5.7	3.1	4.6	5.0	5.6	6.2	3.9	3.0	4.6	5.0	6.2	7.2	6.1	5.6	7.4	6.7	4.4	4.2	7.3	8.1	6.6	7.0	6.9	5.6	6.1	6.6	7.0	6.3
7.9	8.0	7.8	7.2	6.4	6.6	4.6	3.2	4.7	4.9	5.6	5.4	2.9	2.8	2.2	2.1	4.0	7.0	4.6	4.3	4.3	5.7	7.1	2.9	.9	4.4	9.7	10.3	10.1	6.4	4.7	3.8	4.6	3.8	4.2	5.5
9.5	10.5	7.7	8.2	10.2	11.0	9.2	6.4	7.8	9.5	11.1	10.3	8.5	9.3	8.8	9.3	10.0	11.2	11.7	10.7	10.5	9.2	9.0	3.1	3.9	7.7	11.8	11.8	10.7	11.1	10.7	11.8	12.5	12.1	10.2	9.3
8.8	8.4	7.8	9.2	8.3	6.8	6.6	7.3	5.4	3.3	10.8	11.8	11.8	12.7	10.1	6.1	5.9	5.8	9.5	11.6	10.3	8.7	8.2	6.4	8.3	8.4	10.5	11.0	11.9	11.6	11.6	12.2	12.5	12.5	10.0	7.1
10.0	9.9	11.0	8.1	5.9	3.8	2.4	2.3	2.5	2.1	8.2	10.2	11.8	9.3	6.7	3.5	2.6	1.7	1.3	8.2	5.7	5.0	8.6	7.3	7.4	4.6	6.8	8.6	8.8	10.5	8.4	12.4	12.6	11.7	8.5	7.6
9.6	9.2	9.1	10.2	8.0	7.5	5.3	3.9	2.8	2.8	1.8	6.6	9.3	5.3	7.1	7.1	3.4	1.8	1.7	6.1	5.6	4.5	7.1	8.7	4.8	3.1	3.3	2.3	1.4	4.2	4.4	5.2	7.6	7.6	7.8	6.9
8.2	7.4	6.9	7.8	7.6	7.9	8.9	8.7	7.1	4.8	5.3	8.2	7.1	6.8	6.5	7.7	6.7	4.0	3.2	5.6	5.7	6.3	7.5	7.1	6.9	5.0	4.8	3.8	2.7	3.0	4.6	5.5	4.9	4.7	7.0	7.8
5.1	5.1	5.4	5.5	5.3	5.5	5.6	5.9	6.4	6.5	6.3	7.1	6.2	6.3	6.0	5.9	7.0	5.6	4.6	5.2	5.3	5.6	6.0	5.9	5.3	5.0	5.1	4.7	4.3	4.1	4.2	4.5	4.7	5.3	6.6	6.5
4.1	4.1	3.6	3.7	3.6	3.5	3.9	4.5	4.7	5.1	5.3	5.7	5.6	5.5	5.2	5.1	5.4	5.0	4.2	4.2	3.7	3.4	3.9	4.6	5.0	5.3	4.7	4.6	4.4	4.7	4.3	4.3	4.5	4.9	4.4	4.2
3.6	3.5	3.4	3.3	2.9	3.0	3.0	3.6	3.7	4.0	4.6	5.2	5.4	4.9	3.8	3.5	3.4	3.3	3.0	3.1	2.8	2.8	3.3	3.2	3.0	3.5	3.8	4.2	4.1	4.0	4.1	4.2	4.6	4.3	3.8	3.8
2.5	2.5	3.1	3.0	2.5	2.8	3.2	4.0	4.2	3.8	4.5	4.1	4.0	3.9	3.2	3.3	3.7	2.9	2.1	2.2	3.0	2.9	1.9	1.2	1.4	1.9	1.4	1.7	1.4	1.2	1.1	1.0	1.1	1.7	2.1	2.1
2.7	2.7	3.3	3.2	2.5	2.1	2.3	2.2	2.5	2.1	2.5	2.8	2.9	2.6	2.3	2.5	2.2	2.1	1.5	1.1	.8	.8	.7	.7	.8	.8	.9	.9	.8	.8	.9	.7	.8	1.4	1.9	2.1

Figure 45. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



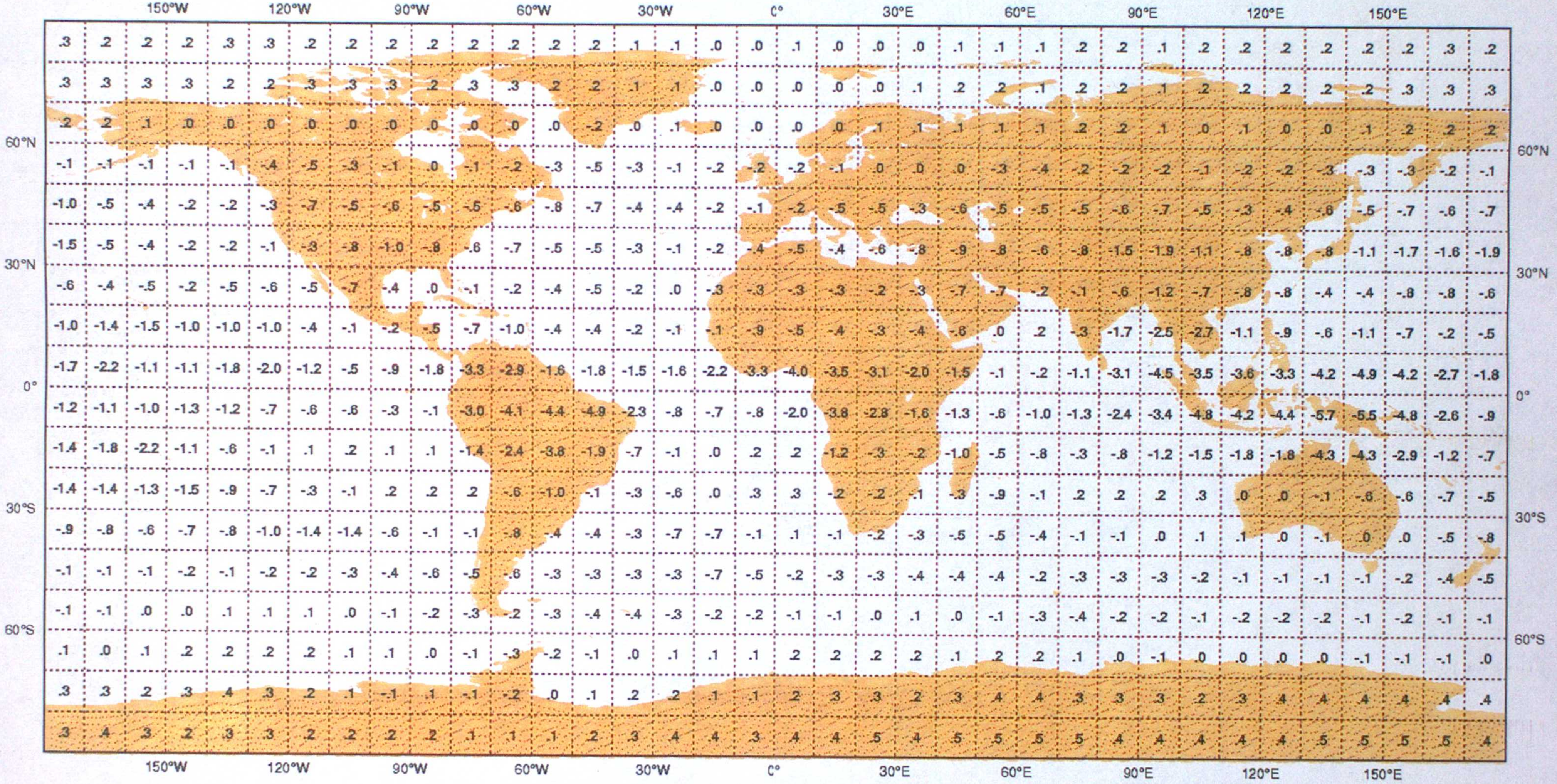
-2.0	-2.1	-2.3	-2.4	-2.3	-2.2	-2.2	-2.1	-2.0	-1.6	-.8	-1.6	-1.6	-1.8	-1.7	-2.6	-3.1	-2.7	-2.4	-2.6	-2.8	-2.6	-2.1	-1.9	-1.9	-1.6	-1.7	-1.8	-1.8	-1.9	-2.0	-1.8	-1.7	-1.7	-1.8	-2.0
-2.1	-2.0	-2.0	-2.2	-2.4	-2.4	-2.5	-2.5	-2.5	-2.0	-1.8	-2.1	-2.7	-3.1	-3.3	-3.4	-3.7	-3.1	-3.1	-3.1	-2.9	-2.4	-1.6	-1.1	-1.3	-1.1	-1.4	-1.9	-1.8	-1.6	-1.6	-1.8	-2.0	-2.0	-1.9	-2.0
-2.5	-2.6	-3.0	-3.6	-3.7	-3.5	-3.5	-3.8	-3.6	-3.3	-3.6	-3.6	-4.3	-4.3	-3.5	-3.2	-3.3	-3.0	-2.9	-3.0	-2.4	-2.3	-2.2	-2.1	-2.0	-2.0	-2.1	-3.1	-3.5	-2.5	-2.4	-2.5	-2.0	-1.6	-2.0	-2.5
-3.6	-3.4	-3.5	-3.3	-4.0	-5.4	-5.1	-3.7	-2.7	-2.6	-3.6	-3.9	-3.9	-4.1	-2.9	-2.0	-2.3	-2.9	-3.0	-3.0	-2.7	-2.3	-2.4	-3.9	-4.0	-3.1	-3.4	-3.9	-3.8	-5.0	-4.7	-5.3	-4.1	-4.2	-3.8	-3.9
-6.2	-3.9	-3.5	-2.8	-2.7	-3.8	-5.9	-4.3	-4.2	-4.2	-4.0	-4.3	-5.2	-4.3	-2.9	-3.0	-2.0	-2.0	-2.3	-4.6	-4.3	-3.4	-4.9	-3.5	-3.6	-3.4	-3.8	-4.0	-4.2	-4.1	-5.2	-5.9	-4.8	-5.7	-4.7	-5.2
-6.2	-2.7	-2.7	-1.8	-1.6	-1.8	-2.3	-4.3	-5.0	-4.5	-3.6	-4.1	-3.1	-3.1	-2.1	-1.6	-1.7	-3.3	-3.7	-3.3	-3.7	-5.0	-6.5	-5.0	-4.1	-4.4	-8.0	-10.2	-7.1	-5.5	-5.2	-5.1	-5.8	-7.7	-7.5	-8.4
-2.5	-2.0	-2.8	-1.8	-2.3	-2.9	-2.6	-3.4	-2.2	-.4	-1.0	-1.7	-1.9	-2.4	-1.2	-.8	-1.8	-2.0	-2.7	-2.6	-1.7	-2.3	-3.8	-3.2	-1.6	-1.2	-2.9	-4.7	-2.7	-3.5	-3.6	-1.9	-2.0	-3.1	-3.6	-2.8
-3.8	-5.2	-5.4	-4.3	-3.6	-3.5	-1.7	-.6	-.8	-1.8	-2.2	-2.4	-1.0	-1.1	-.8	-.4	-1.0	-2.7	-1.5	-2.0	-2.0	-3.3	-2.1	-.4	.2	-1.0	-4.7	-6.5	-7.0	-3.0	-2.1	-1.2	-2.0	-1.5	-1.0	-1.7
-5.3	-6.8	-3.7	-3.9	-5.8	-6.5	-4.6	-2.1	-3.1	-5.3	-9.6	-8.3	-4.9	-5.1	-4.2	-4.8	-6.2	-8.5	-10.0	-9.8	-9.7	-4.9	-2.3	-.9	-.9	-3.1	-8.4	-11.7	-9.2	-10.0	-8.5	-10.7	-12.7	-10.7	-7.1	-5.0
-4.1	-3.9	-3.4	-4.4	-4.2	-2.8	-2.1	-2.4	-1.2	-.7	-9.0	-12.4	-12.8	-13.9	-6.8	-2.3	-2.0	-2.1	-4.9	-10.4	-9.1	-5.0	-3.3	-1.9	-2.9	-3.6	-6.4	-9.0	-12.7	-10.9	-11.6	-14.6	-13.9	-12.0	-6.4	-2.7
-4.8	-5.7	-7.0	-3.8	-2.2	-.9	-.4	-.1	-.2	-.4	-4.4	-6.6	-11.1	-6.6	-2.8	-.9	-.4	.0	.3	-5.7	-3.8	-1.9	-3.9	-2.3	-3.0	-1.5	-2.6	-3.5	-4.3	-4.5	-4.9	-11.0	-11.3	-7.9	-3.7	-2.8
-5.6	-5.5	-4.3	-5.0	-3.7	-3.2	-1.6	-1.2	-.2	.0	-.2	-2.0	-3.9	-1.3	-2.3	-3.3	-.9	-.1	.2	-1.8	-2.3	-1.1	-2.6	-4.4	-1.1	-.2	-.2	-.2	.1	-.6	-1.0	-1.5	-2.8	-3.2	-3.1	-2.8
-4.5	-4.2	-3.3	-3.7	-3.9	-4.9	-6.5	-6.4	-3.4	-1.5	-1.5	-3.8	-3.1	-3.1	-2.9	-4.5	-3.9	-1.6	-.7	-1.5	-1.8	-2.2	-3.2	-3.0	-3.1	-1.8	-1.8	-1.2	-.5	-.7	-1.4	-1.9	-1.8	-1.8	-3.5	-4.5
-2.6	-2.3	-2.5	-2.6	-2.5	-3.1	-3.4	-3.7	-4.1	-4.5	-4.2	-4.6	-3.7	-3.7	-3.5	-3.4	-4.9	-4.1	-3.0	-3.3	-3.4	-3.5	-3.8	-4.0	-2.9	-2.8	-2.9	-2.9	-2.6	-2.3	-2.5	-2.6	-2.5	-3.0	-4.2	-3.9
-2.8	-2.9	-2.7	-2.7	-3.1	-3.4	-3.9	-4.0	-4.4	-4.8	-5.4	-4.9	-5.1	-5.5	-5.2	-4.6	-4.4	-4.3	-3.8	-3.8	-3.8	-3.4	-3.7	-4.5	-4.9	-5.4	-4.4	-4.0	-4.1	-4.7	-4.5	-4.6	-3.9	-4.0	-3.0	-2.9
-3.9	-4.2	-4.1	-3.9	-3.9	-4.0	-4.0	-4.5	-4.5	-4.8	-5.4	-6.1	-5.5	-4.8	-4.1	-4.3	-4.7	-4.5	-4.2	-4.0	-4.3	-4.7	-4.8	-3.8	-3.7	-4.5	-4.8	-5.1	-5.0	-4.8	-4.6	-4.4	-4.5	-4.8	-4.8	-4.5
-4.2	-4.1	-4.2	-3.5	-2.5	-3.3	-4.0	-5.0	-5.9	-4.2	-5.5	-5.1	-5.0	-4.3	-3.9	-3.7	-4.0	-3.3	-2.8	-2.4	-2.2	-2.4	-2.3	-1.5	-1.6	-2.6	-2.3	-2.3	-3.0	-2.4	-2.0	-1.0	-1.4	-1.5	-1.8	-3.9
-4.3	-4.3	-4.4	-3.2	-1.6	-1.5	-2.5	-2.8	-2.3	-2.0	-3.4	-4.0	-3.5	-2.6	-2.0	-1.7	-1.9	-2.2	-2.0	-1.6	-1.2	-1.6	-1.5	-.9	-1.6	-1.6	-2.5	-2.4	-2.0	-1.7	-1.6	-1.2	-1.1	.2	-1.8	-3.6

Figure 46. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA16, using all observations



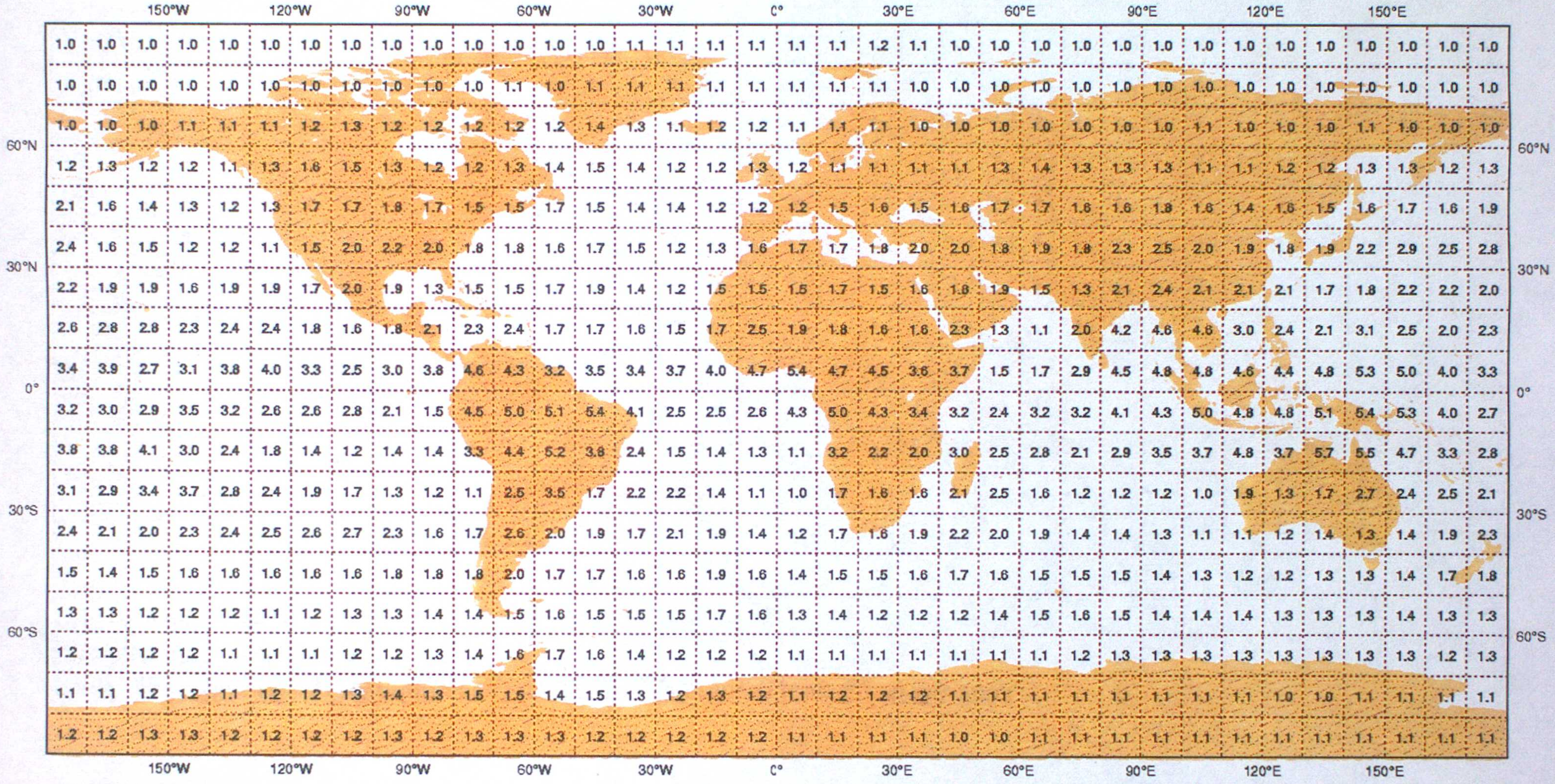
1.9	2.1	2.4	2.3	2.2	2.2	2.4	2.3	2.4	2.4	2.6	2.3	2.3	2.6	2.9	3.6	3.9	3.2	3.1	4.2	4.7	3.6	3.0	2.7	2.5	1.9	1.8	1.9	1.7	1.7	1.8	1.8	1.7	1.7	1.7	1.8
1.8	1.8	2.2	2.5	2.9	2.9	2.9	2.3	2.4	2.4	2.4	3.0	3.2	2.9	3.2	5.0	4.4	4.2	4.1	4.3	4.0	3.0	2.5	2.4	2.7	1.7	1.9	2.4	2.1	1.7	1.7	1.8	1.8	1.7	1.7	1.7
3.3	3.4	3.8	4.6	4.4	4.5	5.2	5.4	5.2	4.7	4.6	4.3	4.8	5.7	5.1	4.5	5.1	4.8	4.5	4.3	3.9	3.9	3.8	3.7	3.4	2.7	3.0	4.4	5.2	4.0	4.0	3.8	3.2	2.5	2.9	3.3
4.8	5.1	5.0	4.8	5.1	6.2	7.0	6.3	5.1	4.3	4.7	4.9	5.6	5.7	5.0	4.1	4.5	5.2	4.9	4.5	4.4	4.2	4.3	5.6	5.8	4.9	5.1	5.5	5.1	6.0	6.2	6.0	5.8	6.0	5.3	5.1
8.0	5.8	5.5	4.9	4.8	5.9	7.8	7.5	8.1	7.0	6.2	6.4	7.3	6.4	5.4	6.1	4.7	4.8	5.1	7.1	7.2	6.7	7.3	6.9	7.4	7.1	7.3	8.0	7.9	7.4	8.0	8.0	7.2	7.7	7.1	8.0
8.5	5.7	5.6	3.9	4.2	4.7	6.3	8.4	9.1	8.6	7.2	7.6	6.8	6.9	5.7	5.0	5.0	6.6	7.3	7.1	7.4	9.0	9.5	8.1	8.3	8.6	11.2	11.2	8.7	7.7	7.6	7.9	8.6	10.0	9.5	10.4
6.9	6.5	7.2	5.6	6.4	6.7	6.1	7.5	6.5	3.8	5.4	5.8	6.4	6.9	4.5	3.8	5.4	5.4	6.1	6.4	5.4	6.4	7.5	7.1	5.3	4.7	8.0	9.0	7.2	7.1	6.8	5.9	5.9	7.0	7.6	6.9
8.3	8.9	9.0	7.9	7.1	7.4	5.7	4.2	5.6	5.8	6.6	6.7	4.4	4.5	3.7	3.3	4.5	7.5	5.5	5.5	5.5	6.0	7.3	3.7	1.7	5.5	11.3	11.7	12.3	7.5	6.3	5.5	7.0	5.9	5.6	6.4
10.2	11.0	8.0	9.3	11.2	11.8	10.4	7.7	8.8	10.8	12.9	11.8	9.0	9.9	9.8	10.4	11.4	13.2	14.4	12.8	12.0	10.8	10.9	4.0	4.5	8.4	12.6	12.9	12.6	12.5	11.9	13.1	14.2	13.5	11.1	9.5
9.4	8.7	8.5	10.0	9.5	7.7	7.5	8.1	6.0	3.4	12.5	13.6	14.0	14.6	11.3	7.0	6.9	6.9	11.1	13.8	11.8	9.8	9.1	7.0	9.1	9.1	11.3	12.0	13.6	12.8	12.7	13.4	14.1	13.9	10.8	7.4
10.9	10.9	11.8	8.9	7.0	4.9	3.4	2.9	3.4	3.3	9.2	12.0	13.9	10.7	7.5	4.4	3.5	2.8	2.2	10.1	7.2	5.9	9.3	7.7	8.5	6.1	8.0	9.3	9.9	11.7	9.6	14.2	14.2	12.3	9.0	8.6
9.8	9.2	9.2	10.8	8.5	7.6	5.9	4.6	3.3	3.3	2.6	7.6	10.5	6.1	8.1	7.9	4.2	2.5	2.4	6.3	6.1	5.3	7.7	8.8	5.0	3.3	3.7	2.9	1.9	4.9	4.0	4.5	7.3	7.2	7.6	7.1
8.2	7.4	7.0	8.1	8.1	8.6	9.5	9.1	7.8	5.4	5.6	9.4	8.0	7.2	6.7	8.3	7.1	4.6	3.8	6.4	5.9	7.0	8.1	7.4	7.2	5.4	5.1	4.3	3.2	3.3	4.6	5.4	4.9	5.4	7.5	8.3
5.8	5.5	5.8	6.0	6.0	6.2	6.4	6.6	7.1	7.1	7.1	8.2	7.0	6.9	6.5	6.6	7.6	6.1	5.1	5.9	5.9	6.2	6.8	6.5	6.0	5.6	5.8	5.3	4.9	4.7	5.0	5.3	5.5	6.3	7.6	7.6
4.7	4.9	4.5	4.5	4.5	4.6	5.1	5.8	6.1	6.4	6.9	7.4	7.0	6.6	6.4	6.1	6.5	6.0	5.3	5.2	4.5	4.3	5.0	5.6	5.9	6.4	5.6	5.5	5.2	5.5	5.3	5.5	5.7	5.9	5.2	4.9
4.6	4.7	4.6	4.3	4.0	4.1	4.0	4.9	5.1	5.3	6.0	7.3	7.7	6.6	5.2	4.6	4.7	4.6	4.2	4.2	3.9	4.2	4.8	4.6	4.2	4.7	5.0	5.9	5.6	5.5	5.3	5.3	5.8	5.5	4.9	5.0
3.7	3.8	4.5	4.5	4.3	4.5	5.1	6.0	6.4	5.5	6.9	6.9	6.1	5.8	4.8	5.1	5.9	5.2	3.9	4.3	5.4	5.3	3.7	2.9	3.0	3.6	3.0	3.7	3.2	2.8	2.9	2.6	2.5	3.2	4.3	3.4
4.6	4.7	5.6	5.4	4.5	4.1	4.5	4.3	4.4	4.2	4.6	4.9	5.1	4.6	4.1	4.5	4.1	3.8	3.1	2.9	2.8	2.8	2.8	2.7	3.0	2.8	3.1	3.1	2.9	2.7	2.8	2.5	2.4	3.6	4.6	4.2

Figure 47. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



.3	.2	.2	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.0	.0	.1	.0	.0	.0	.1	.1	.1	.2	.2	.1	.2	.2	.2	.2	.2	.2	.3	.2
.3	.3	.3	.3	.2	.2	.3	.3	.3	.2	.3	.3	.2	.2	.1	.1	.0	.0	.0	.0	.0	.1	.2	.2	.1	.2	.2	.1	.2	.2	.2	.2	.2	.3	.3	.3
.2	.2	.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.2	.0	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.2	.2	.1	.0	.1	.0	.0	.1	.2	.2	.2
-.1	-.1	-.1	-.1	-.1	-.4	-.5	-.3	-.1	.0	-.1	-.2	-.3	-.5	-.3	-.1	-.2	-.2	-.2	-.1	.0	.0	.0	-.3	-.4	-.2	-.2	-.2	-.1	-.2	-.2	-.3	-.3	-.3	-.2	-.1
-1.0	-.5	-.4	-.2	-.2	-.3	-.7	-.5	-.6	-.5	-.5	-.6	-.8	-.7	-.4	-.4	-.2	-.1	-.2	-.5	-.5	-.3	-.6	-.5	-.5	-.5	-.6	-.7	-.5	-.3	-.4	-.6	-.5	-.7	-.6	-.7
-1.5	-.5	-.4	-.2	-.2	-.1	-.3	-.8	-1.0	-.8	-.6	-.7	-.5	-.5	-.3	-.1	-.2	-.4	-.5	-.4	-.6	-.8	-.9	-.8	-.6	-.8	-1.5	-1.9	-1.1	-.8	-.8	-.8	-1.1	-1.7	-1.6	-1.9
-.6	-.4	-.5	-.2	-.5	-.6	-.5	-.7	-.4	.0	-.1	-.2	-.4	-.5	-.2	.0	-.3	-.3	-.3	-.3	-.2	-.3	-.7	-.7	-.2	-.1	-.6	-1.2	-.7	-.8	-.8	-.4	-.4	-.8	-.8	-.6
-1.0	-1.4	-1.5	-1.0	-1.0	-1.0	-.4	-.1	-.2	-.5	-.7	-1.0	-.4	-.4	-.2	-.1	-.1	-.9	-.5	-.4	-.3	-.4	-.6	.0	.2	-.3	-1.7	-2.5	-2.7	-1.1	-.9	-.6	-1.1	-.7	-.2	-.5
-1.7	-2.2	-1.1	-1.1	-1.8	-2.0	-1.2	-.5	-.9	-1.8	-3.3	-2.9	-1.6	-1.8	-1.5	-1.6	-2.2	-3.3	-4.0	-3.5	-3.1	-2.0	-1.5	-.1	-.2	-1.1	-3.1	-4.5	-3.5	-3.6	-3.3	-4.2	-4.9	-4.2	-2.7	-1.8
-1.2	-1.1	-1.0	-1.3	-1.2	-.7	-.6	-.6	-.3	-.1	-3.0	-4.1	-4.4	-4.9	-2.3	-.8	-.7	-.8	-2.0	-3.8	-2.8	-1.6	-1.3	-.6	-1.0	-1.3	-2.4	-3.4	-4.8	-4.2	-4.4	-5.7	-5.5	-4.8	-2.6	-.9
-1.4	-1.8	-2.2	-1.1	-.6	-.1	.1	.2	.1	.1	-1.4	-2.4	-3.8	-1.9	-.7	-.1	.0	.2	.2	-1.2	-.3	-.2	-1.0	-.5	-.8	-.3	-.8	-1.2	-1.5	-1.8	-1.8	-4.3	-4.3	-2.9	-1.2	-.7
-1.4	-1.4	-1.3	-1.5	-.9	-.7	-.3	-.1	.2	.2	.2	-.6	-1.0	-.1	-.3	-.6	.0	.3	.3	-.2	-.2	-.1	-.3	-.9	-.1	.2	.2	.2	.3	.0	.0	-.1	-.6	-.6	-.7	-.5
-.9	-.8	-.6	-.7	-.8	-1.0	-1.4	-1.4	-.6	-.1	-.1	-.8	-.4	-.4	-.3	-.7	-.7	-.1	.1	-.1	-.2	-.3	-.5	-.5	-.4	-.1	-.1	.0	.1	.1	.0	-.1	.0	.0	-.5	-.8
-.1	-.1	-.1	-.2	-.1	-.2	-.2	-.3	-.4	-.6	-.5	-.6	-.3	-.3	-.3	-.3	-.7	-.5	-.2	-.3	-.3	-.4	-.4	-.4	-.2	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1	-.2	-.4	-.5
-.1	-.1	.0	.0	.1	.1	.1	.0	-.1	-.2	-.3	-.2	-.3	-.4	-.4	-.3	-.2	-.2	-.1	-.1	.0	.1	.0	-.1	-.3	-.4	-.2	-.2	-.1	-.2	-.2	-.2	-.1	-.2	-.1	-.1
.1	.0	.1	.2	.2	.2	.2	.1	.1	.0	-.1	-.3	-.2	-.1	.0	.1	.1	.1	.2	.2	.2	.2	.1	.2	.2	.1	.0	-.1	.0	.0	.0	.0	-.1	-.1	-.1	.0
.3	.3	.2	.3	.4	.3	.2	.1	-.1	.1	-.1	-.2	.0	.1	.2	.2	.1	.1	.2	.3	.3	.2	.3	.4	.4	.3	.3	.3	.2	.3	.4	.4	.4	.4	.4	.4
.3	.4	.3	.2	.3	.3	.2	.2	.2	.2	.1	.1	.1	.2	.3	.4	.4	.3	.4	.4	.5	.4	.5	.5	.5	.5	.4	.4	.4	.4	.4	.5	.5	.5	.5	.4

Figure 48. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS4 (400 hPa)
NOAA16, using all observations



1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.4	1.3	1.1	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.1	1.0	1.0	1.0	1.1	1.0	1.0	1.0
1.2	1.3	1.2	1.2	1.1	1.3	1.6	1.5	1.3	1.2	1.2	1.3	1.4	1.5	1.4	1.2	1.2	1.3	1.2	1.1	1.1	1.1	1.1	1.3	1.4	1.3	1.3	1.3	1.1	1.1	1.2	1.2	1.3	1.3	1.2	1.3
2.1	1.6	1.4	1.3	1.2	1.3	1.7	1.7	1.8	1.7	1.5	1.5	1.7	1.5	1.4	1.4	1.2	1.2	1.2	1.5	1.6	1.5	1.6	1.7	1.7	1.6	1.6	1.8	1.6	1.4	1.6	1.5	1.6	1.7	1.6	1.9
2.4	1.6	1.5	1.2	1.2	1.1	1.5	2.0	2.2	2.0	1.8	1.8	1.6	1.7	1.5	1.2	1.3	1.6	1.7	1.7	1.8	2.0	2.0	1.8	1.9	1.8	2.3	2.5	2.0	1.9	1.8	1.9	2.2	2.9	2.5	2.8
2.2	1.9	1.9	1.6	1.9	1.9	1.7	2.0	1.9	1.3	1.5	1.5	1.7	1.9	1.4	1.2	1.5	1.5	1.5	1.7	1.5	1.6	1.8	1.9	1.5	1.3	2.1	2.4	2.1	2.1	2.1	1.7	1.8	2.2	2.2	2.0
2.6	2.8	2.8	2.3	2.4	2.4	1.8	1.6	1.8	2.1	2.3	2.4	1.7	1.7	1.6	1.5	1.7	2.5	1.9	1.8	1.6	1.6	2.3	1.3	1.1	2.0	4.2	4.6	4.6	3.0	2.4	2.1	3.1	2.5	2.0	2.3
3.4	3.9	2.7	3.1	3.8	4.0	3.3	2.5	3.0	3.8	4.6	4.3	3.2	3.5	3.4	3.7	4.0	4.7	5.4	4.7	4.5	3.6	3.7	1.5	1.7	2.9	4.5	4.8	4.8	4.6	4.4	4.8	5.3	5.0	4.0	3.3
3.2	3.0	2.9	3.5	3.2	2.6	2.6	2.8	2.1	1.5	4.5	5.0	5.1	5.4	4.1	2.5	2.5	2.6	4.3	5.0	4.3	3.4	3.2	2.4	3.2	3.2	4.1	4.3	5.0	4.8	4.8	5.1	5.4	5.3	4.0	2.7
3.8	3.8	4.1	3.0	2.4	1.8	1.4	1.2	1.4	1.4	3.3	4.4	5.2	3.8	2.4	1.5	1.4	1.3	1.1	3.2	2.2	2.0	3.0	2.5	2.8	2.1	2.9	3.5	3.7	4.8	3.7	5.7	5.5	4.7	3.3	2.8
3.1	2.9	3.4	3.7	2.8	2.4	1.9	1.7	1.3	1.2	1.1	2.5	3.5	1.7	2.2	2.2	1.4	1.1	1.0	1.7	1.6	1.6	2.1	2.5	1.6	1.2	1.2	1.2	1.0	1.9	1.3	1.7	2.7	2.4	2.5	2.1
2.4	2.1	2.0	2.3	2.4	2.5	2.6	2.7	2.3	1.6	1.7	2.6	2.0	1.9	1.7	2.1	1.9	1.4	1.2	1.7	1.6	1.9	2.2	2.0	1.9	1.4	1.4	1.3	1.1	1.1	1.2	1.4	1.3	1.4	1.9	2.3
1.5	1.4	1.5	1.6	1.6	1.6	1.6	1.6	1.8	1.8	1.8	2.0	1.7	1.7	1.6	1.6	1.9	1.6	1.4	1.5	1.5	1.6	1.7	1.6	1.5	1.5	1.5	1.4	1.3	1.2	1.2	1.3	1.3	1.4	1.7	1.8
1.3	1.3	1.2	1.2	1.2	1.1	1.2	1.3	1.3	1.4	1.4	1.5	1.6	1.5	1.5	1.5	1.7	1.6	1.3	1.4	1.2	1.2	1.2	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.3	1.3	1.3	1.4	1.3	1.3
1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.2	1.2	1.3	1.4	1.6	1.7	1.6	1.4	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.3
1.1	1.1	1.2	1.2	1.1	1.2	1.2	1.3	1.4	1.3	1.5	1.5	1.4	1.5	1.3	1.2	1.3	1.2	1.1	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1
1.2	1.2	1.3	1.3	1.2	1.2	1.2	1.2	1.3	1.2	1.3	1.3	1.3	1.2	1.2	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1

Figure 49. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations

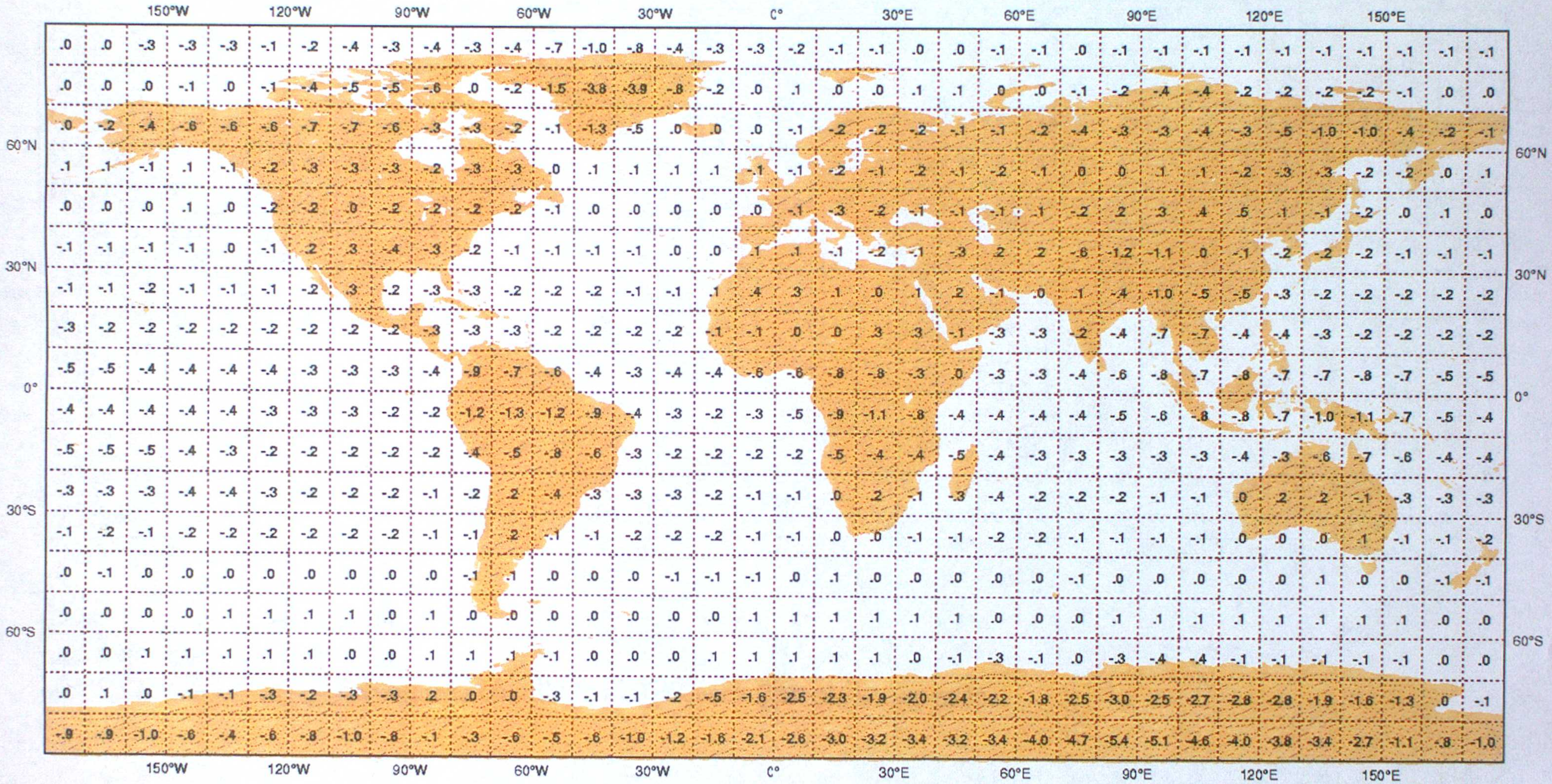
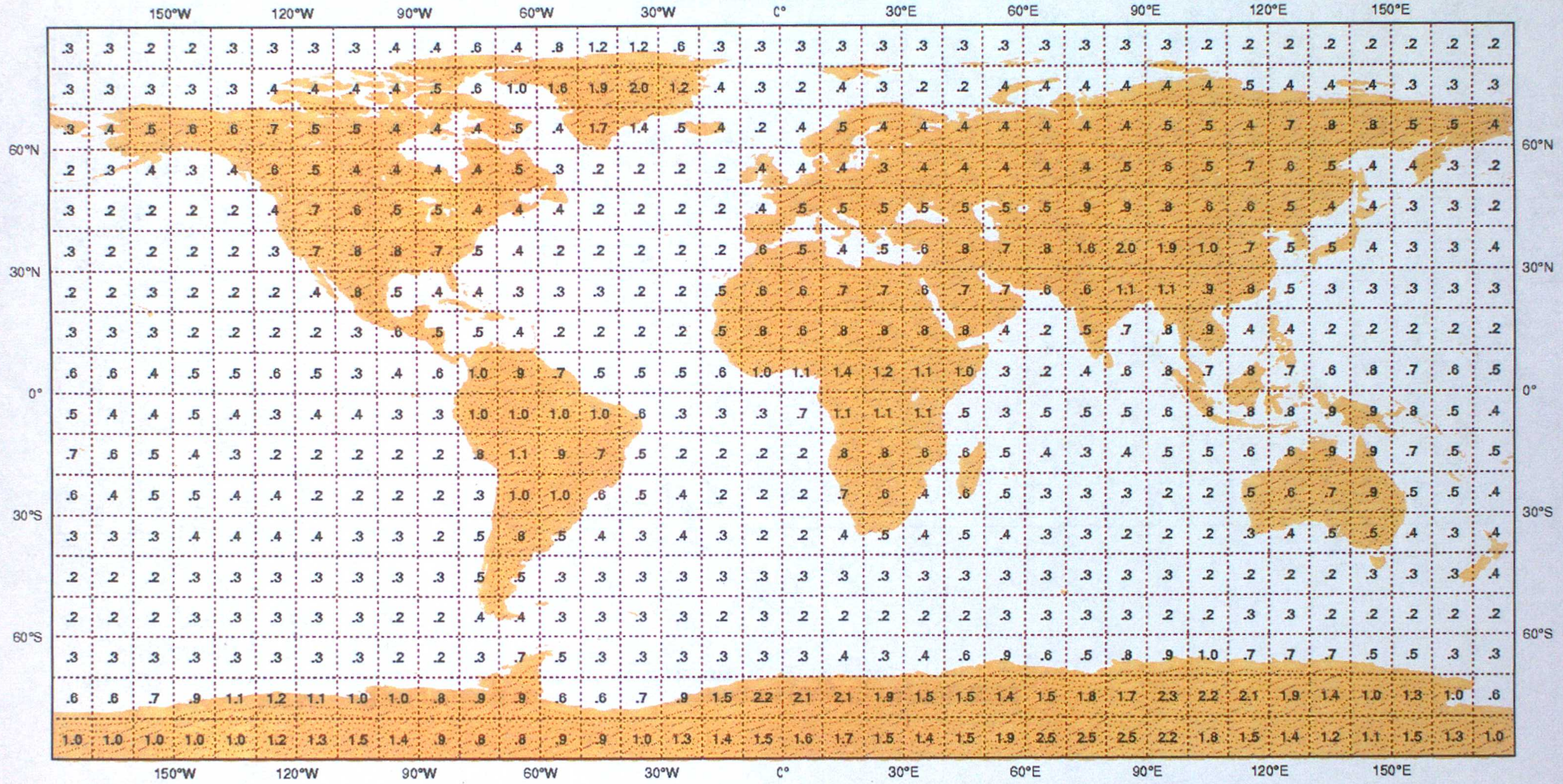
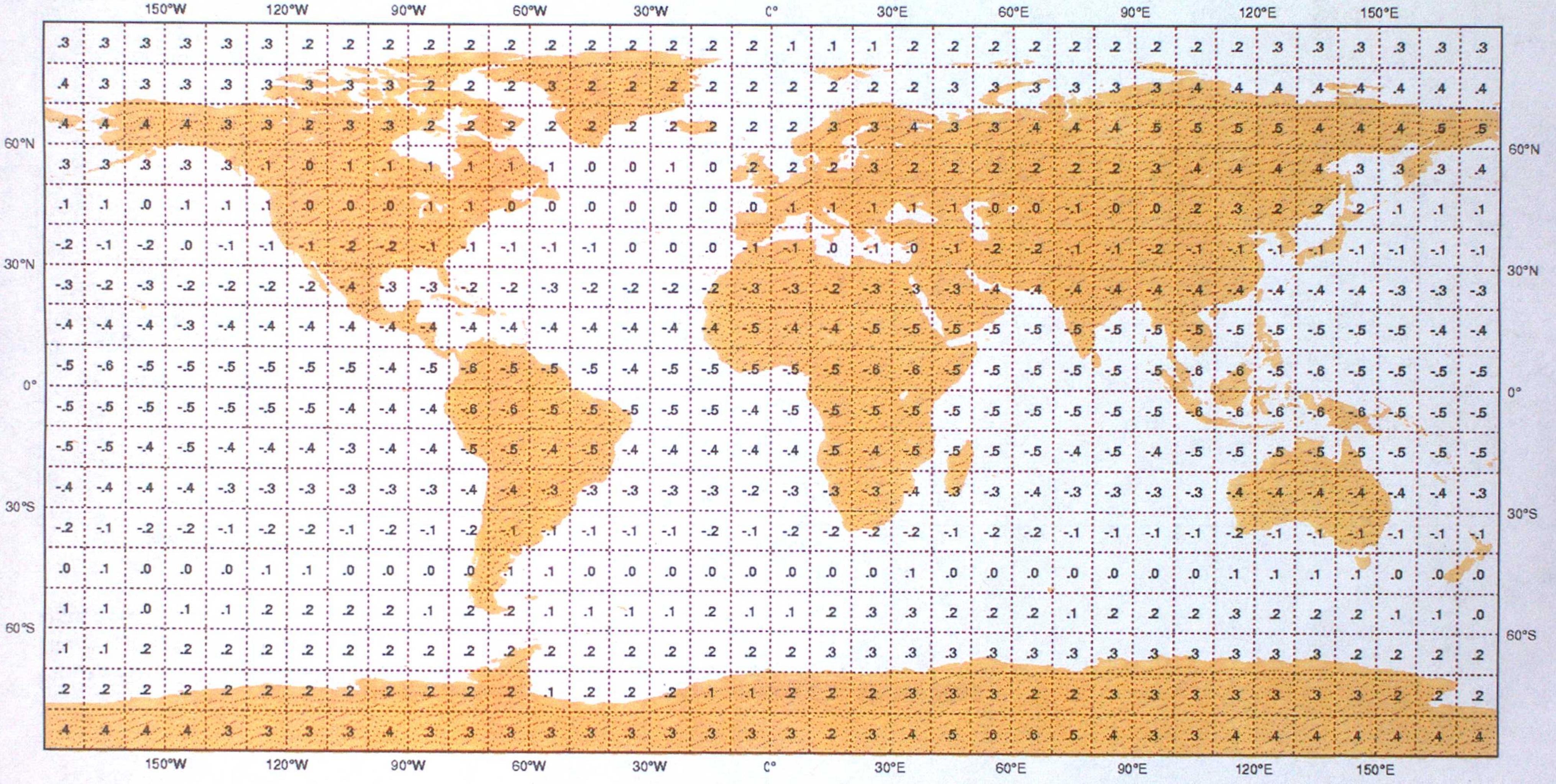

150°W 120°W 90°W 60°W 30°W 0° 30°E 60°E 90°E 120°E 150°E
60°N
30°N
0°
30°S
60°S
.0 .0 -.3 -.3 -.3 -.1 -.2 -.4 -.3 -.4 -.3 -.4 -.7 -1.0 -.8 -.4 -.3 -.3 -.2 -.1 -.1 .0 .0 -.1 -.1 .0 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1 -.1
.0 .0 .0 -.1 .0 -.1 -.4 -.5 -.5 -.6 .0 -.2 -1.5 -3.8 -3.9 -.8 -.2 .0 .1 .0 .0 .1 .1 .0 .0 -.1 -.2 -.4 -.4 -.2 -.2 -.2 -.2 -.1 .0 .0
.0 -.2 -.4 -.6 -.6 -.6 -.7 -.7 -.6 -.3 -.3 -.2 -.1 -1.3 -.5 .0 .0 .0 -.1 -.2 -.2 -.2 -.1 -.1 -.2 -.4 -.3 -.3 -.4 -.3 -.5 -1.0 -1.0 -.4 -.2 -.1
.1 .1 -.1 .1 -.1 -.2 -.3 -.3 -.3 -.2 -.3 -.3 .0 .1 .1 .1 .1 -.1 -.1 -.2 -.1 -.2 -.1 -.2 -.1 .0 .0 .1 .1 -.2 -.3 -.3 -.2 -.2 .0 .1
.0 .0 .0 .1 .0 -.2 -.2 .0 -.2 -.2 -.2 -.2 -.1 .0 .0 .0 .0 .0 -.1 -.3 -.2 -.1 -.1 -.1 .1 -.2 .2 .3 .4 .5 .1 -.1 -.2 .0 .1 .0
-.1 -.1 -.1 -.1 .0 -.1 .2 .3 -.4 -.3 -.2 -.1 -.1 -.1 -.1 .0 .0 .1 .1 -.1 -.2 -.1 -.3 .2 .2 -.6 -1.2 -1.1 .0 -.1 -.2 -.2 -.2 -.1 -.1 -.1
-.1 -.1 -.2 -.1 -.1 -.1 -.2 .3 -.2 -.3 -.3 -.2 -.2 -.2 -.1 -.1 .1 .4 .3 .1 .0 .1 .2 -.1 .0 .1 -.4 -1.0 -.5 -.5 -.3 -.2 -.2 -.2 -.2 -.2
-.3 -.2 -.2 -.2 -.2 -.2 -.2 -.2 -.2 -.3 -.3 -.3 -.2 -.2 -.2 -.2 -.1 -.1 .0 .0 .3 .3 -.1 -.3 -.3 -.2 -.4 -.7 -.7 -.4 -.4 -.3 -.2 -.2 -.2 -.2
-.5 -.5 -.4 -.4 -.4 -.4 -.3 -.3 -.3 -.4 -.9 -.7 -.6 -.4 -.3 -.4 -.4 -.6 -.6 -.8 -.8 -.3 .0 -.3 -.3 -.4 -.6 -.8 -.7 -.8 -.7 -.7 -.8 -.7 -.5 -.5
-.4 -.4 -.4 -.4 -.4 -.3 -.3 -.3 -.2 -.2 -1.2 -1.3 -1.2 -.9 -.4 -.3 -.2 -.3 -.5 -.9 -1.1 -.8 -.4 -.4 -.4 -.4 -.5 -.6 -.8 -.8 -.7 -1.0 -1.1 -.7 -.5 -.4
-.5 -.5 -.5 -.4 -.3 -.2 -.2 -.2 -.2 -.2 -.4 -.5 -.8 -.6 -.3 -.2 -.2 -.2 -.2 -.5 -.4 -.4 -.5 -.4 -.3 -.3 -.3 -.3 -.3 -.4 -.3 -.6 -.7 -.6 -.4 -.4
-.3 -.3 -.3 -.4 -.4 -.3 -.2 -.2 -.2 -.1 -.2 .2 -.4 -.3 -.3 -.3 -.2 -.1 -.1 .0 .2 -.1 -.3 -.4 -.2 -.2 -.2 -.1 -.1 .0 .2 .2 -.1 -.3 -.3 -.3
-.1 -.2 -.1 -.2 -.2 -.2 -.2 -.2 -.2 -.1 -.1 .2 -.1 -.1 -.2 -.2 -.2 -.1 -.1 .0 .0 -.1 -.1 -.2 -.2 -.1 -.1 -.1 -.1 .0 .0 .0 .1 -.1 -.1 -.2
.0 -.1 .0 .0 .0 .0 .0 .0 .0 .0 -.1 .1 .0 .0 .0 -.1 -.1 -.1 .0 .1 .0 .0 .0 .0 .0 -.1 .0 .0 .0 .0 .0 .1 .0 .0 -.1 -.1
.0 .0 .0 .0 .1 .1 .1 .1 .0 .1 .0 .0 .0 .0 .0 .0 .0 .1 .1 .1 .1 .1 .1 .0 .0 .0 .1 .1 .1 .1 .1 .1 .1 .1 .0 .0
.0 .0 .1 .1 .1 .1 .1 .0 .0 .1 .1 .1 -.1 .0 .0 .0 .1 .1 .1 .1 .1 .0 -.1 -.3 -.1 .0 -.3 -.4 -.4 -.1 -.1 -.1 -.1 -.1 .0 .0
.0 .1 .0 -.1 -.1 -.3 -.2 -.3 -.3 .2 .0 .0 -.3 -.1 -.1 -.2 -.5 -1.6 -2.5 -2.3 -1.9 -2.0 -2.4 -2.2 -1.8 -2.5 -3.0 -2.5 -2.7 -2.8 -2.8 -1.9 -1.6 -1.3 .0 -.1
-.9 -.9 -1.0 -.6 -.4 -.6 -.8 -1.0 -.8 -.1 -.3 -.6 -.5 -.6 -1.0 -1.2 -1.6 -2.1 -2.6 -3.0 -3.2 -3.4 -3.2 -3.4 -4.0 -4.7 -5.4 -5.1 -4.6 -4.0 -3.8 -3.4 -2.7 -1.1 -.8 -1.0

Figure 50. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-5 (700 hPa)
NOAA16, using all observations



.3	.3	.2	.2	.3	.3	.3	.3	.4	.4	.6	.4	.8	1.2	1.2	.6	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2
.3	.3	.3	.3	.3	.4	.4	.4	.4	.5	.6	1.0	1.6	1.9	2.0	1.2	.4	.3	.2	.4	.3	.2	.2	.4	.4	.4	.4	.4	.4	.5	.4	.4	.4	.3	.3	.3
.3	.4	.5	.6	.6	.7	.5	.5	.4	.4	.4	.5	.4	1.7	1.4	.5	.4	.2	.4	.5	.4	.4	.4	.4	.4	.4	.4	.5	.5	.4	.7	.8	.8	.5	.5	.4
.2	.3	.4	.3	.4	.6	.5	.4	.4	.4	.4	.5	.3	.2	.2	.2	.2	.4	.4	.4	.3	.4	.4	.4	.4	.4	.5	.6	.5	.7	.6	.5	.4	.4	.3	.2
.3	.2	.2	.2	.2	.4	.7	.6	.5	.5	.4	.4	.4	.2	.2	.2	.2	.4	.5	.5	.5	.5	.5	.5	.5	.9	.9	.8	.6	.6	.5	.4	.4	.3	.3	.2
.3	.2	.2	.2	.2	.3	.7	.8	.8	.7	.5	.4	.2	.2	.2	.2	.2	.6	.5	.4	.5	.6	.8	.7	.8	1.6	2.0	1.9	1.0	.7	.5	.5	.4	.3	.3	.4
.2	.2	.3	.2	.2	.2	.4	.8	.5	.4	.4	.3	.3	.3	.2	.2	.5	.6	.6	.7	.7	.6	.7	.7	.6	.6	1.1	1.1	.9	.8	.5	.3	.3	.3	.3	.3
.3	.3	.3	.2	.2	.2	.2	.3	.6	.5	.5	.4	.2	.2	.2	.2	.5	.8	.6	.8	.8	.8	.8	.4	.2	.5	.7	.8	.9	.4	.4	.2	.2	.2	.2	.2
.6	.6	.4	.5	.5	.6	.5	.3	.4	.6	1.0	.9	.7	.5	.5	.5	.6	1.0	1.1	1.4	1.2	1.1	1.0	.3	.2	.4	.6	.8	.7	.8	.7	.6	.8	.7	.6	.5
.5	.4	.4	.5	.4	.3	.4	.4	.3	.3	1.0	1.0	1.0	1.0	.6	.3	.3	.3	.7	1.1	1.1	1.1	.5	.3	.5	.5	.5	.6	.8	.8	.8	.9	.9	.8	.5	.4
.7	.6	.5	.4	.3	.2	.2	.2	.2	.2	.8	1.1	.9	.7	.5	.2	.2	.2	.2	.8	.8	.6	.6	.5	.4	.3	.4	.5	.5	.6	.6	.9	.9	.7	.5	.5
.6	.4	.5	.5	.4	.4	.2	.2	.2	.2	.3	1.0	1.0	.6	.5	.4	.2	.2	.2	.7	.6	.4	.6	.5	.3	.3	.3	.2	.2	.5	.6	.7	.9	.5	.5	.4
.3	.3	.3	.4	.4	.4	.4	.3	.3	.2	.5	.8	.5	.4	.3	.4	.3	.2	.2	.4	.5	.4	.5	.4	.3	.3	.2	.2	.2	.3	.4	.5	.5	.4	.3	.4
.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.5	.5	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.3	.3	.3	.4
.2	.2	.2	.3	.3	.3	.3	.3	.2	.2	.4	.4	.3	.3	.3	.3	.2	.3	.2	.2	.2	.2	.2	.3	.3	.3	.3	.2	.2	.3	.3	.2	.2	.2	.2	.2
.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.7	.5	.3	.3	.3	.3	.3	.3	.4	.3	.4	.6	.9	.6	.5	.8	.9	1.0	.7	.7	.7	.5	.5	.3	.3
.6	.6	.7	.9	1.1	1.2	1.1	1.0	1.0	.8	.9	.9	.6	.6	.7	.9	1.5	2.2	2.1	2.1	1.9	1.5	1.5	1.4	1.5	1.8	1.7	2.3	2.2	2.1	1.9	1.4	1.0	1.3	1.0	.6
1.0	1.0	1.0	1.0	1.0	1.2	1.3	1.5	1.4	.9	.8	.8	.9	.9	1.0	1.3	1.4	1.5	1.6	1.7	1.5	1.4	1.5	1.9	2.5	2.5	2.5	2.2	1.8	1.5	1.4	1.2	1.1	1.5	1.3	1.0

Figure 51. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations



.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3
.4	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4
.4	.4	.4	.4	.3	.3	.2	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.4	.3	.3	.4	.4	.4	.5	.5	.5	.5	.4	.4	.4	.5	.5
.3	.3	.3	.3	.3	.1	.0	.1	.1	.1	.1	.1	.1	.0	.0	.1	.0	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2	.3	.4	.4	.4	.4	.3	.3	.3	.4
.1	.1	.0	.1	.1	.1	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.0	.0	-.1	.0	.0	.2	.3	.2	.2	.2	.1	.1	.1
-.2	-.1	-.2	.0	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	-.1	-.1	.0	-.1	.0	-.1	-.2	-.2	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1
-.3	-.2	-.3	-.2	-.2	-.2	-.2	-.4	-.3	-.3	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3
-.4	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4
-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.6	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.6	-.5	-.5	-.5	-.5
-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5
-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.3	-.4	-.4	-.5	-.5	-.4	-.5	-.4	-.4	-.4	-.4	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.2	-.3	-.3	-.3	-.4	-.3	-.3	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.3
-.2	-.1	-.2	-.2	-.1	-.2	-.2	-.1	-.2	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.2	-.1	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1
.0	.1	.0	.0	.0	.1	.1	.0	.0	.0	.0	.1	.1	.0	.0	.0	.0	.0	.0	.0	.0	.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.0	.0	.0
.1	.1	.0	.1	.1	.2	.2	.2	.2	.1	.2	.2	.1	.1	.1	.1	.2	.1	.1	.2	.3	.3	.2	.2	.2	.1	.2	.2	.2	.3	.2	.2	.2	.1	.1	.0
.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.1	.2	.2	.2	.1	.1	.2	.2	.2	.3	.3	.3	.2	.2	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2
.4	.4	.4	.4	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.4	.5	.6	.6	.5	.4	.3	.3	.4	.4	.4	.4	.4	.4	.4

Figure 52. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-7 (300 hPa)
NOAA16, using all observations

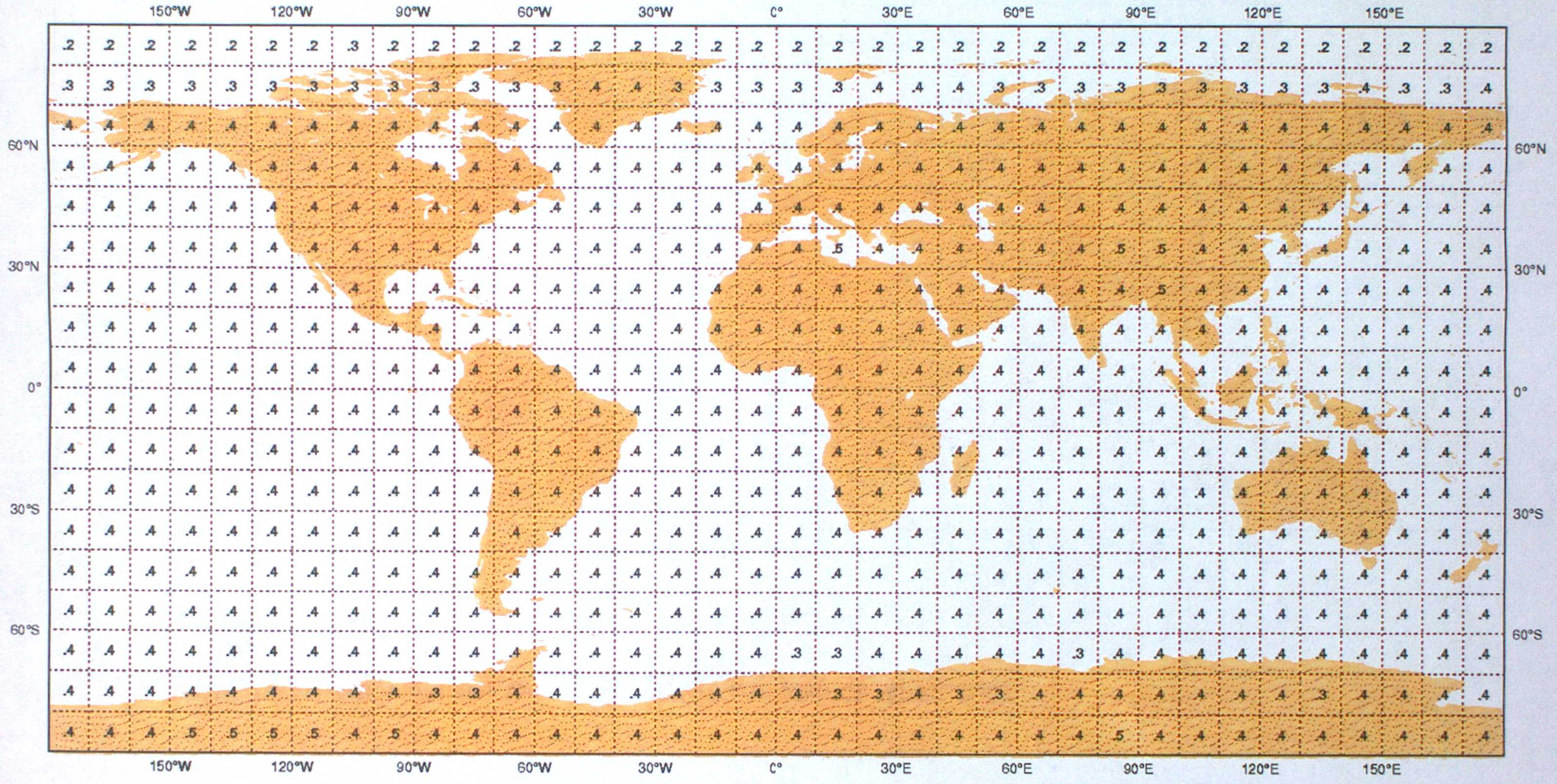
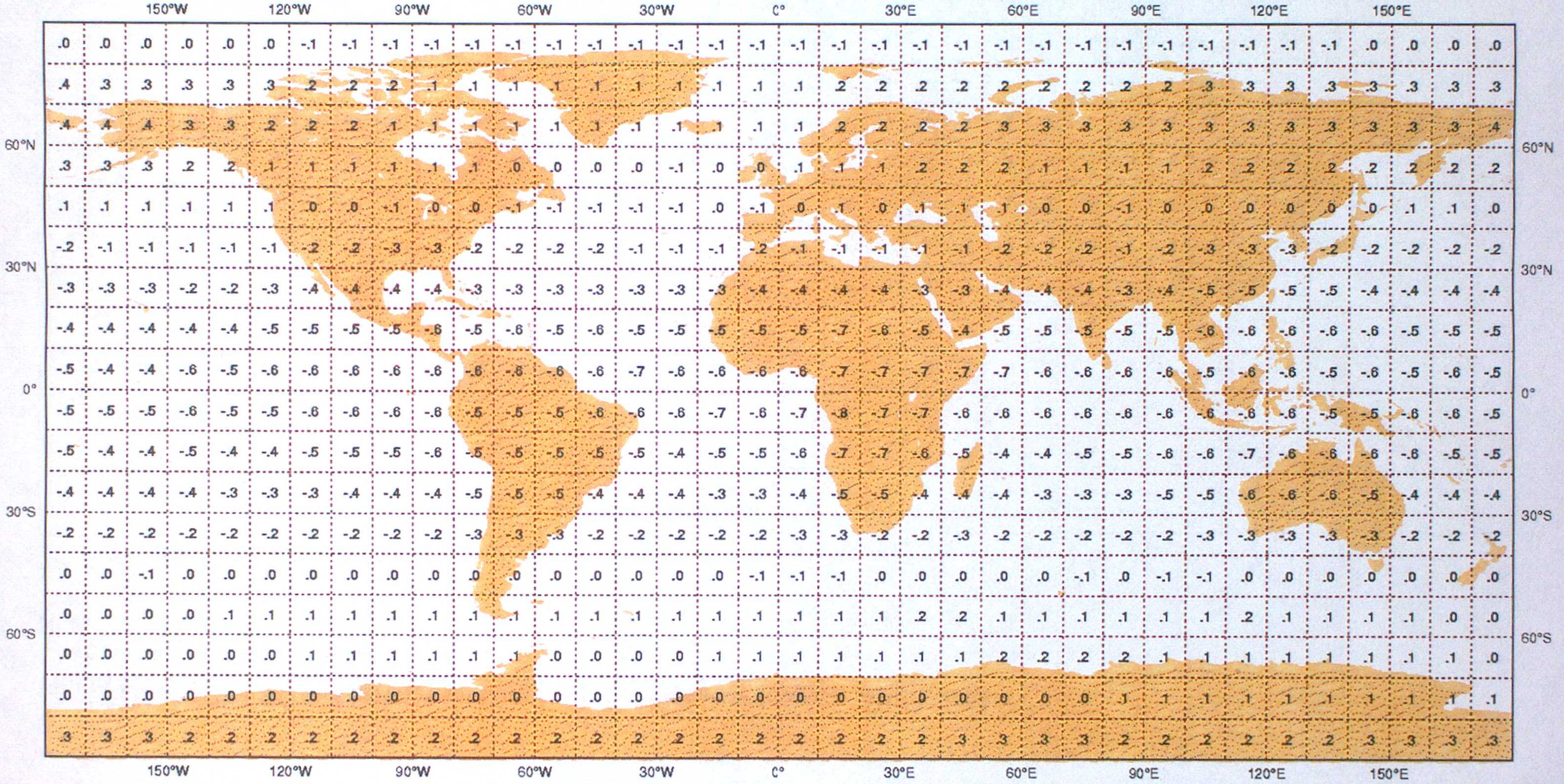
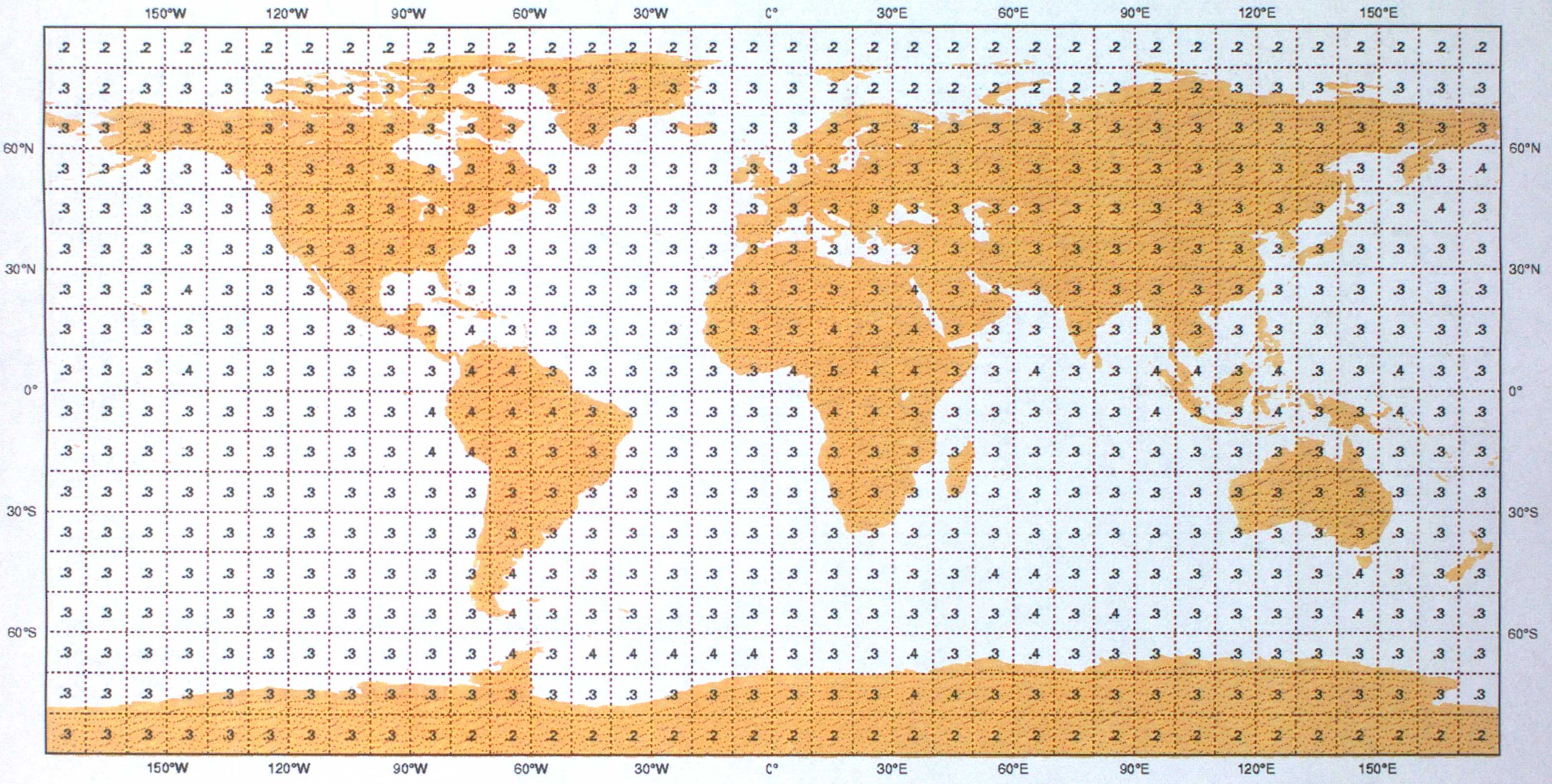

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.2 .2 .2 .2 .2 .2 .2 .3 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2
.3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .4 .3 .3 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .5 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4
.4 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .4 .3 .3 .4 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4
.4 .4 .4 .5 .5 .5 .5 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .4 .5 .4 .4 .4 .4 .4 .4 .4 .4 .4

Figure 53. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations



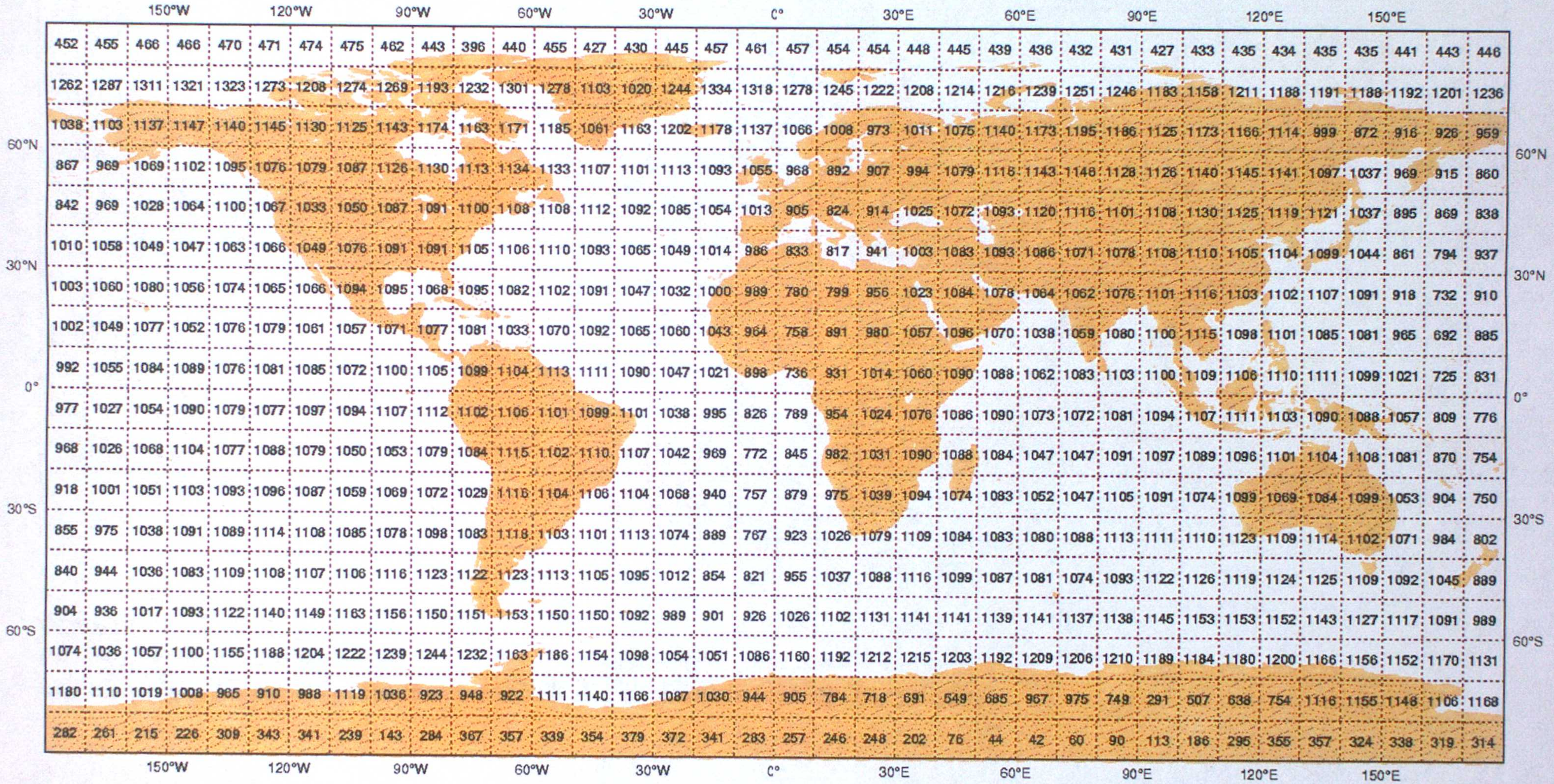
.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0
.4	.3	.3	.3	.3	.3	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3
.4	.4	.4	.3	.3	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4
.3	.3	.3	.2	.2	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	-.1	.0	.0	.1	.1	.1	.2	.2	.2	.1	.1	.1	.1	.2	.2	.2	.2	.2	.2	.2	.2
.1	.1	.1	.1	.1	.1	.0	.0	-.1	.0	.0	-.1	-.1	-.1	-.1	-.1	.0	-.1	.0	.1	.0	.1	.1	.1	.0	.0	-.1	.0	.0	.0	.0	.0	.0	.1	.1	.0
-.2	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2
-.3	-.3	-.3	-.2	-.2	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.3	-.4	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4
-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.7	-.6	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5
-.5	-.4	-.4	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.5	-.6	-.6	-.5	-.6	-.5	-.6	-.5
-.5	-.5	-.5	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.6	-.6	-.6	-.7	-.6	-.7	-.8	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.5
-.5	-.4	-.4	-.5	-.4	-.4	-.5	-.5	-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.5	-.6	-.7	-.7	-.6	-.5	-.4	-.4	-.5	-.5	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.5	-.5
-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.5	-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.5	-.5	-.6	-.6	-.6	-.5	-.4	-.4	-.4
-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2
.0	.0	-.1	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	-.1	-.1	-.1	.0	.0	.0	.0	.0	-.1	.0	-.1	-.1	.0	.0	.0	.0	.0	.0	.0
.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1	.2	.2	.1	.1	.1	.1	.1	.1	.2	.1	.1	.1	.1	.0	.0
.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.2	.2	.2	.2	.1	.1	.1	.1	.1	.1	.1	.1	.0
.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	.1	.1	.1
.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3

Figure 54. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-9 (100 hPa)
NOAA16, using all observations



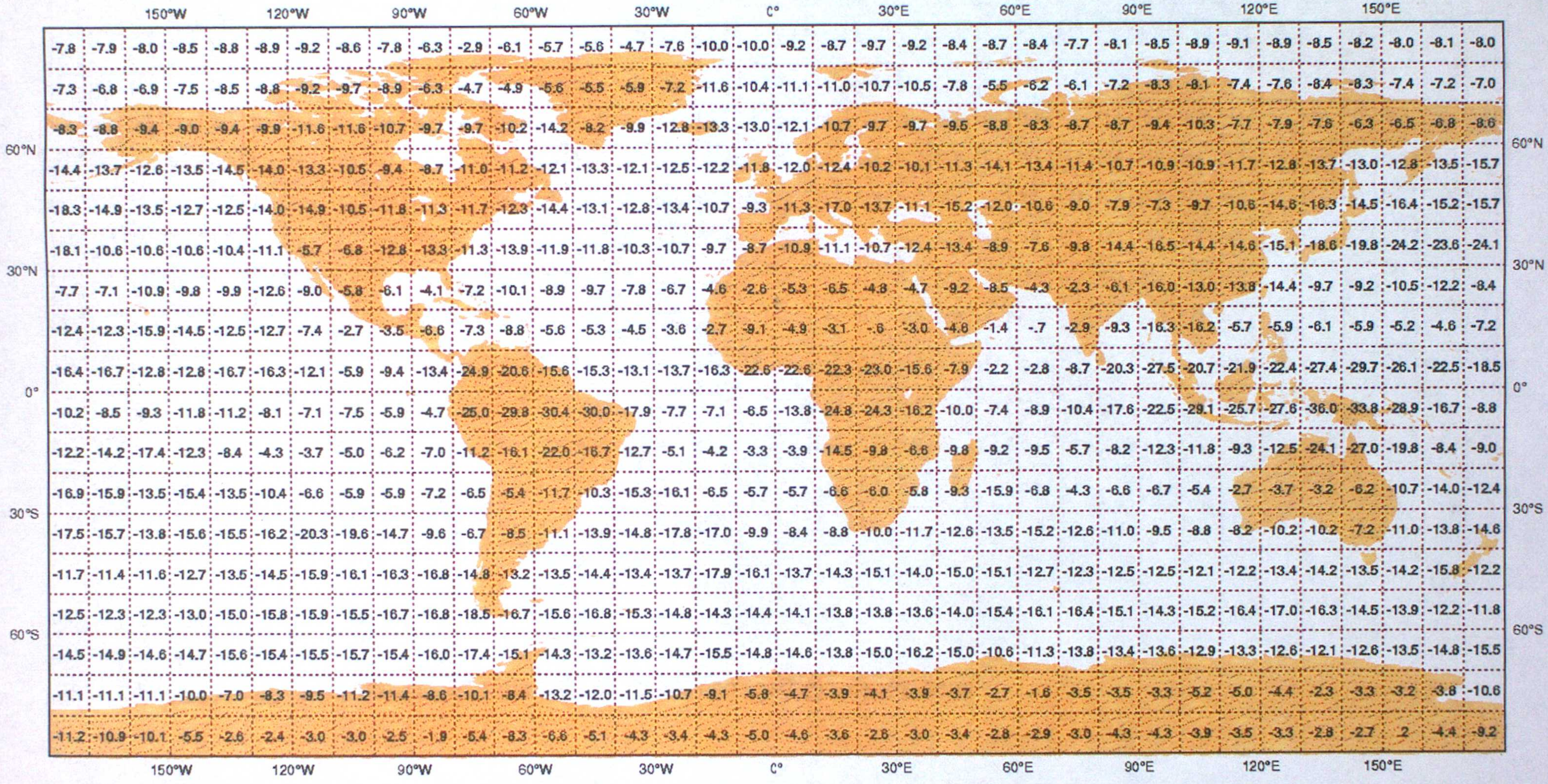
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.4	.5	.4	.4	.3	.3	.4	.3	.3	.4	.4	.3	.4	.3	.3	.4	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.4	.3	.3	.4	.3	.3	.4	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.3	.3	.3	.3	.3	.4	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.4	.4	.4	.4	.4	.3	.3	.3	.4	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2

Figure 55. ATOVS mean daily count. APRIL 2006
NOAA18, using all observations
Global average number of observations in 24 hours = 637714



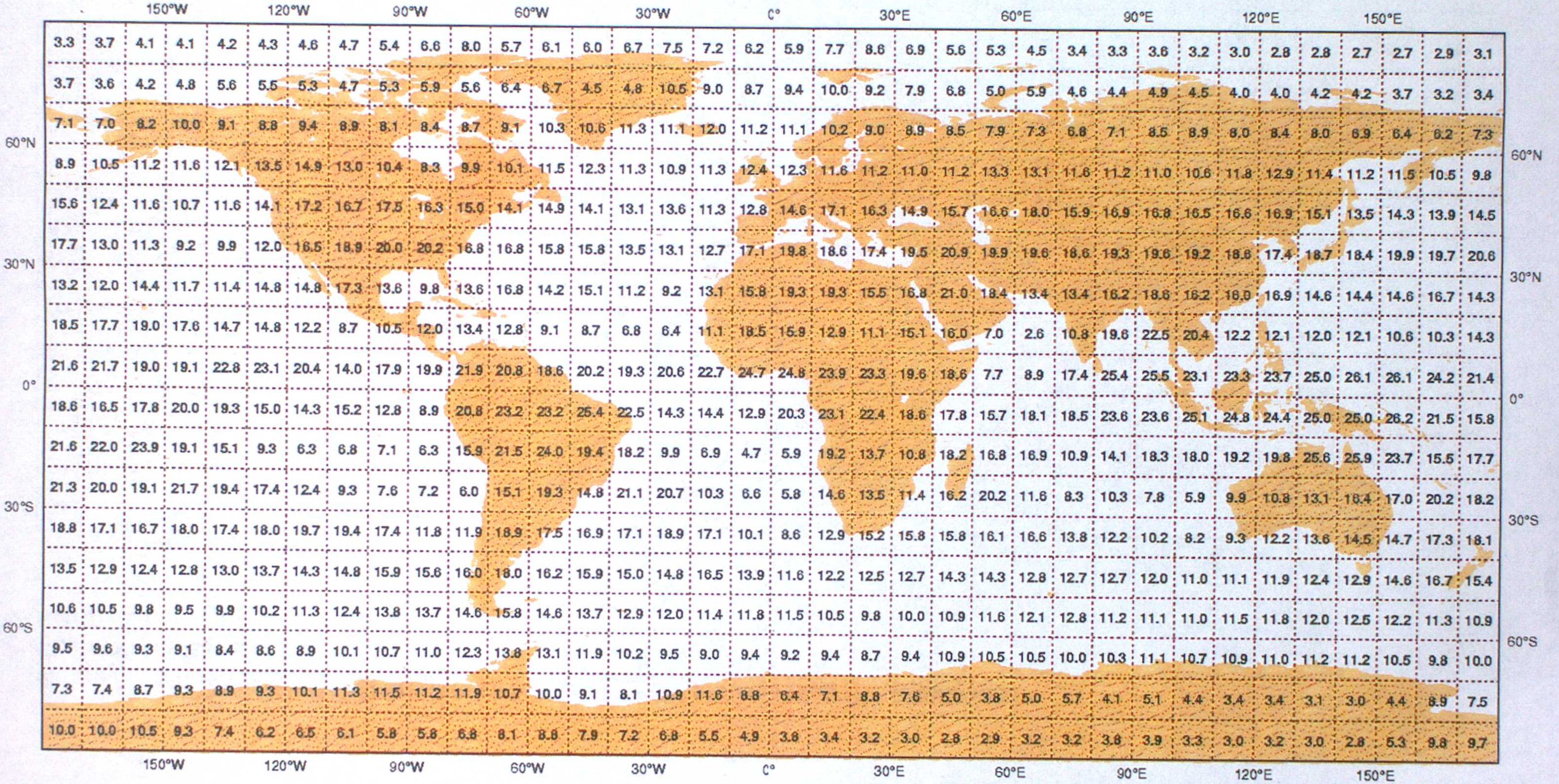
452	455	466	466	470	471	474	475	462	443	396	440	455	427	430	445	457	461	457	454	454	448	445	439	436	432	431	427	433	435	434	435	435	441	443	446
1262	1287	1311	1321	1323	1273	1208	1274	1269	1193	1232	1301	1278	1103	1020	1244	1334	1318	1278	1245	1222	1208	1214	1216	1239	1251	1246	1183	1158	1211	1188	1191	1188	1192	1201	1236
1038	1103	1137	1147	1140	1145	1130	1125	1143	1174	1163	1171	1185	1061	1163	1202	1178	1137	1066	1008	973	1011	1075	1140	1173	1195	1186	1125	1173	1166	1114	999	872	916	926	959
867	969	1069	1102	1095	1076	1079	1087	1126	1130	1113	1134	1133	1107	1101	1113	1093	1055	968	892	907	994	1079	1116	1143	1146	1128	1126	1140	1145	1141	1097	1037	969	915	860
842	969	1028	1064	1100	1067	1033	1050	1087	1091	1100	1108	1108	1112	1092	1085	1054	1013	905	824	914	1025	1072	1093	1120	1116	1101	1108	1130	1125	1119	1121	1037	895	869	838
1010	1058	1049	1047	1063	1066	1049	1076	1091	1091	1105	1106	1110	1093	1065	1049	1014	986	833	817	941	1003	1083	1093	1086	1071	1078	1108	1110	1105	1104	1099	1044	861	794	937
1003	1060	1080	1056	1074	1065	1066	1094	1095	1068	1095	1082	1102	1091	1047	1032	1000	989	780	799	956	1023	1084	1078	1064	1062	1076	1101	1116	1103	1102	1107	1091	918	732	910
1002	1049	1077	1052	1076	1079	1061	1057	1071	1077	1081	1033	1070	1092	1065	1060	1043	964	758	891	980	1057	1096	1070	1038	1059	1080	1100	1115	1098	1101	1085	1081	965	692	885
992	1055	1084	1089	1076	1081	1085	1072	1100	1105	1099	1104	1113	1111	1090	1047	1021	898	736	931	1014	1060	1090	1088	1062	1083	1103	1100	1109	1106	1110	1111	1099	1021	725	831
977	1027	1054	1090	1079	1077	1097	1094	1107	1112	1102	1106	1101	1099	1101	1038	995	826	789	954	1024	1076	1086	1090	1073	1072	1081	1094	1107	1111	1103	1090	1088	1057	809	776
968	1026	1068	1104	1077	1088	1079	1050	1053	1079	1084	1115	1102	1110	1107	1042	969	772	845	982	1031	1090	1088	1084	1047	1047	1091	1097	1089	1096	1101	1104	1108	1081	870	754
918	1001	1051	1103	1093	1096	1087	1059	1069	1072	1029	1116	1104	1106	1104	1068	940	757	879	975	1039	1094	1074	1083	1052	1047	1105	1091	1074	1099	1069	1084	1099	1053	904	750
855	975	1038	1091	1089	1114	1108	1085	1078	1098	1083	1118	1103	1101	1113	1074	889	767	923	1026	1079	1109	1084	1083	1080	1088	1113	1111	1110	1123	1109	1114	1102	1071	984	802
840	944	1036	1083	1109	1108	1107	1106	1116	1123	1122	1123	1113	1105	1095	1012	854	821	955	1037	1088	1116	1099	1087	1081	1074	1093	1122	1126	1119	1124	1125	1109	1092	1045	889
904	936	1017	1093	1122	1140	1149	1163	1156	1150	1151	1153	1150	1150	1092	989	901	926	1026	1102	1131	1141	1141	1139	1141	1137	1138	1145	1153	1153	1152	1143	1127	1117	1091	989
1074	1036	1057	1100	1155	1188	1204	1222	1239	1244	1232	1163	1186	1154	1098	1054	1051	1086	1160	1192	1212	1215	1203	1192	1209	1206	1210	1189	1184	1180	1200	1166	1156	1152	1170	1131
1180	1110	1019	1008	965	910	988	1119	1036	923	948	922	1111	1140	1166	1087	1030	944	905	784	718	691	549	685	967	975	749	291	507	638	754	1116	1155	1148	1106	1168
282	261	215	226	309	343	341	239	143	284	367	357	339	354	379	372	341	283	257	246	248	202	76	44	42	60	90	113	186	295	355	357	324	338	319	314

Figure 56. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



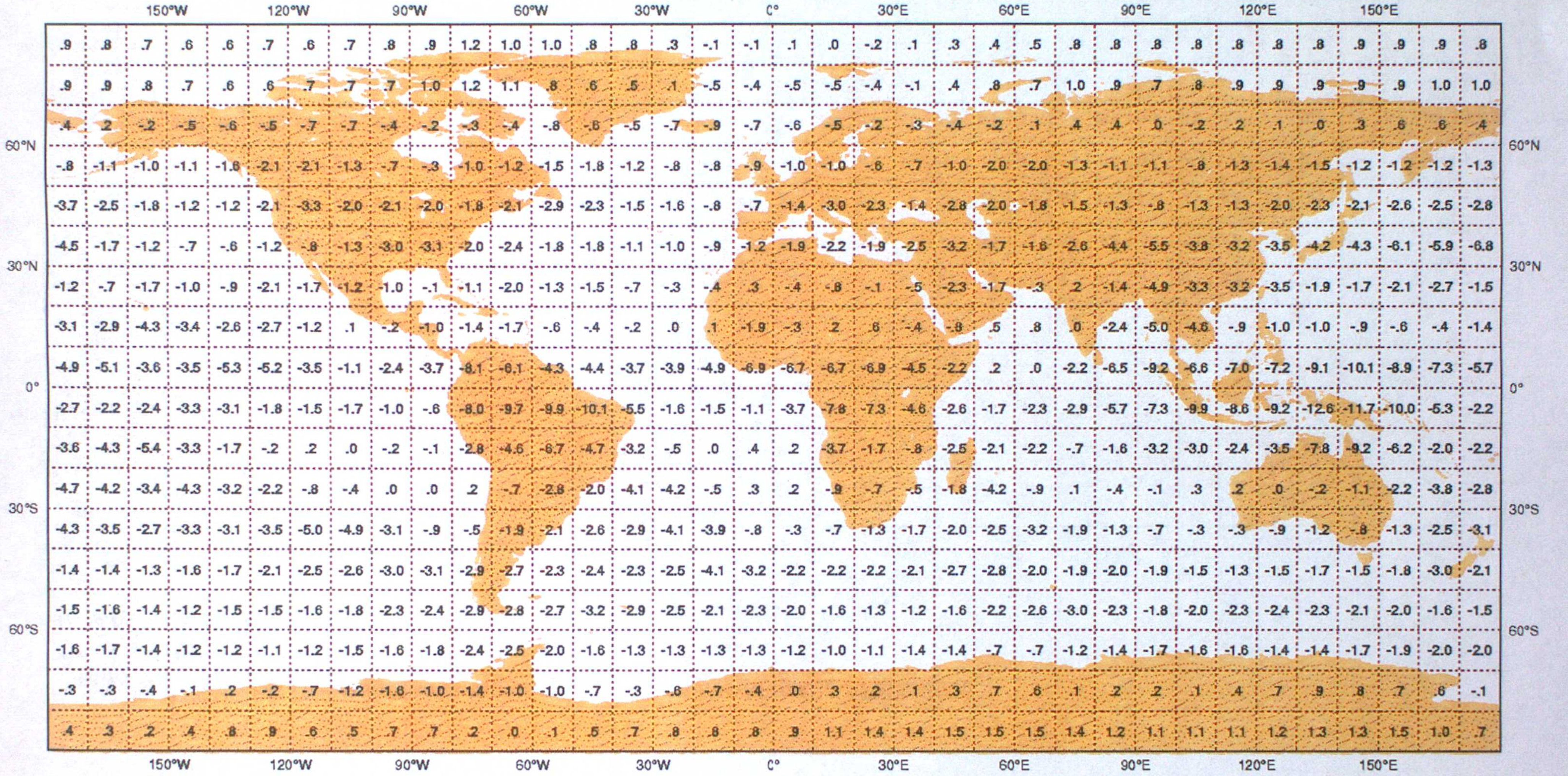
-7.8	-7.9	-8.0	-8.5	-8.8	-8.9	-9.2	-8.6	-7.8	-6.3	-2.9	-6.1	-5.7	-5.6	-4.7	-7.6	-10.0	-10.0	-9.2	-8.7	-9.7	-9.2	-8.4	-8.7	-8.4	-7.7	-8.1	-8.5	-8.9	-9.1	-8.9	-8.5	-8.2	-8.0	-8.1	-8.0
-7.3	-6.8	-6.9	-7.5	-8.5	-8.8	-9.2	-9.7	-8.9	-6.3	-4.7	-4.9	-5.6	-5.5	-5.9	-7.2	-11.6	-10.4	-11.1	-11.0	-10.7	-10.5	-7.8	-5.5	-6.2	-6.1	-7.2	-8.3	-8.1	-7.4	-7.6	-8.4	-8.3	-7.4	-7.2	-7.0
-8.3	-8.8	-9.4	-9.0	-9.4	-9.9	-11.6	-11.6	-10.7	-9.7	-9.7	-10.2	-14.2	-8.2	-9.9	-12.8	-13.3	-13.0	-12.1	-10.7	-9.7	-9.7	-9.5	-8.8	-8.3	-8.7	-8.7	-9.4	-10.3	-7.7	-7.9	-7.6	-6.3	-6.5	-6.8	-8.6
-14.4	-13.7	-12.6	-13.5	-14.5	-14.0	-13.3	-10.5	-9.4	-8.7	-11.0	-11.2	-12.1	-13.3	-12.1	-12.5	-12.2	-11.8	-12.0	-12.4	-10.2	-10.1	-11.3	-14.1	-13.4	-11.4	-10.7	-10.9	-10.9	-11.7	-12.8	-13.7	-13.0	-12.8	-13.5	-15.7
-18.3	-14.9	-13.5	-12.7	-12.5	-14.0	-14.9	-10.5	-11.8	-11.3	-11.7	-12.3	-14.4	-13.1	-12.8	-13.4	-10.7	-9.3	-11.3	-17.0	-13.7	-11.1	-15.2	-12.0	-10.6	-9.0	-7.9	-7.3	-9.7	-10.6	-14.6	-16.3	-14.5	-16.4	-15.2	-15.7
-18.1	-10.6	-10.6	-10.6	-10.4	-11.1	-5.7	-6.8	-12.8	-13.3	-11.3	-13.9	-11.9	-11.8	-10.3	-10.7	-9.7	-8.7	-10.9	-11.1	-10.7	-12.4	-13.4	-8.9	-7.6	-9.8	-14.4	-16.5	-14.4	-14.6	-15.1	-18.6	-19.8	-24.2	-23.6	-24.1
-7.7	-7.1	-10.9	-9.8	-9.9	-12.6	-9.0	-5.8	-6.1	-4.1	-7.2	-10.1	-8.9	-9.7	-7.8	-6.7	-4.6	-2.6	-5.3	-6.5	-4.8	-4.7	-9.2	-8.5	-4.3	-2.3	-6.1	-16.0	-13.0	-13.8	-14.4	-9.7	-9.2	-10.5	-12.2	-8.4
-12.4	-12.3	-15.9	-14.5	-12.5	-12.7	-7.4	-2.7	-3.5	-6.6	-7.3	-8.8	-5.6	-5.3	-4.5	-3.6	-2.7	-9.1	-4.9	-3.1	-.6	-3.0	-4.8	-1.4	-.7	-2.9	-9.3	-16.3	-16.2	-5.7	-5.9	-6.1	-5.9	-5.2	-4.6	-7.2
-16.4	-16.7	-12.8	-12.8	-16.7	-16.3	-12.1	-5.9	-9.4	-13.4	-24.9	-20.6	-15.6	-15.3	-13.1	-13.7	-16.3	-22.6	-22.6	-22.3	-23.0	-15.6	-7.9	-2.2	-2.8	-8.7	-20.3	-27.5	-20.7	-21.9	-22.4	-27.4	-29.7	-26.1	-22.5	-18.5
-10.2	-8.5	-9.3	-11.8	-11.2	-8.1	-7.1	-7.5	-5.9	-4.7	-25.0	-29.8	-30.4	-30.0	-17.9	-7.7	-7.1	-6.5	-13.8	-24.8	-24.3	-16.2	-10.0	-7.4	-8.9	-10.4	-17.6	-22.5	-29.1	-25.7	-27.6	-36.0	-33.8	-28.9	-16.7	-8.8
-12.2	-14.2	-17.4	-12.3	-8.4	-4.3	-3.7	-5.0	-6.2	-7.0	-11.2	-16.1	-22.0	-16.7	-12.7	-5.1	-4.2	-3.3	-3.9	-14.5	-9.8	-6.6	-9.8	-9.2	-9.5	-5.7	-8.2	-12.3	-11.8	-9.3	-12.5	-24.1	-27.0	-19.8	-8.4	-9.0
-16.9	-15.9	-13.5	-15.4	-13.5	-10.4	-6.6	-5.9	-5.9	-7.2	-6.5	-5.4	-11.7	-10.3	-15.3	-16.1	-6.5	-5.7	-5.7	-6.6	-6.0	-5.8	-9.3	-15.9	-6.8	-4.3	-6.6	-6.7	-5.4	-2.7	-3.7	-3.2	-6.2	-10.7	-14.0	-12.4
-17.5	-15.7	-13.8	-15.6	-15.5	-16.2	-20.3	-19.6	-14.7	-9.6	-6.7	-8.5	-11.1	-13.9	-14.8	-17.8	-17.0	-9.9	-8.4	-8.8	-10.0	-11.7	-12.6	-13.5	-15.2	-12.6	-11.0	-9.5	-8.8	-8.2	-10.2	-10.2	-7.2	-11.0	-13.8	-14.6
-11.7	-11.4	-11.6	-12.7	-13.5	-14.5	-15.9	-16.1	-16.3	-16.8	-14.8	-13.2	-13.5	-14.4	-13.4	-13.7	-17.9	-16.1	-13.7	-14.3	-15.1	-14.0	-15.0	-15.1	-12.7	-12.3	-12.5	-12.5	-12.1	-12.2	-13.4	-14.2	-13.5	-14.2	-15.8	-12.2
-12.5	-12.3	-12.3	-13.0	-15.0	-15.8	-15.9	-15.5	-16.7	-16.8	-18.5	-16.7	-15.6	-16.8	-15.3	-14.8	-14.3	-14.4	-14.1	-13.8	-13.8	-13.6	-14.0	-15.4	-16.1	-16.4	-15.1	-14.3	-15.2	-16.4	-17.0	-16.3	-14.5	-13.9	-12.2	-11.8
-14.5	-14.9	-14.6	-14.7	-15.6	-15.4	-15.5	-15.7	-15.4	-16.0	-17.4	-15.1	-14.3	-13.2	-13.6	-14.7	-15.5	-14.8	-14.6	-13.8	-15.0	-16.2	-15.0	-10.6	-11.3	-13.8	-13.4	-13.6	-12.9	-13.3	-12.6	-12.1	-12.6	-13.5	-14.8	-15.5
-11.1	-11.1	-11.1	-10.0	-7.0	-8.3	-9.5	-11.2	-11.4	-8.6	-10.1	-8.4	-13.2	-12.0	-11.5	-10.7	-9.1	-5.8	-4.7	-3.9	-4.1	-3.9	-3.7	-2.7	-1.6	-3.5	-3.5	-3.3	-5.2	-5.0	-4.4	-2.3	-3.3	-3.2	-3.8	-10.6
-11.2	-10.9	-10.1	-5.5	-2.6	-2.4	-3.0	-3.0	-2.5	-1.9	-5.4	-8.3	-6.6	-5.1	-4.3	-3.4	-4.3	-5.0	-4.6	-3.6	-2.8	-3.0	-3.4	-2.8	-2.9	-3.0	-4.3	-4.3	-3.9	-3.5	-3.3	-2.8	-2.7	2	-4.4	-9.2

Figure 57. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS8 (Surface)
NOAA18, using all observations



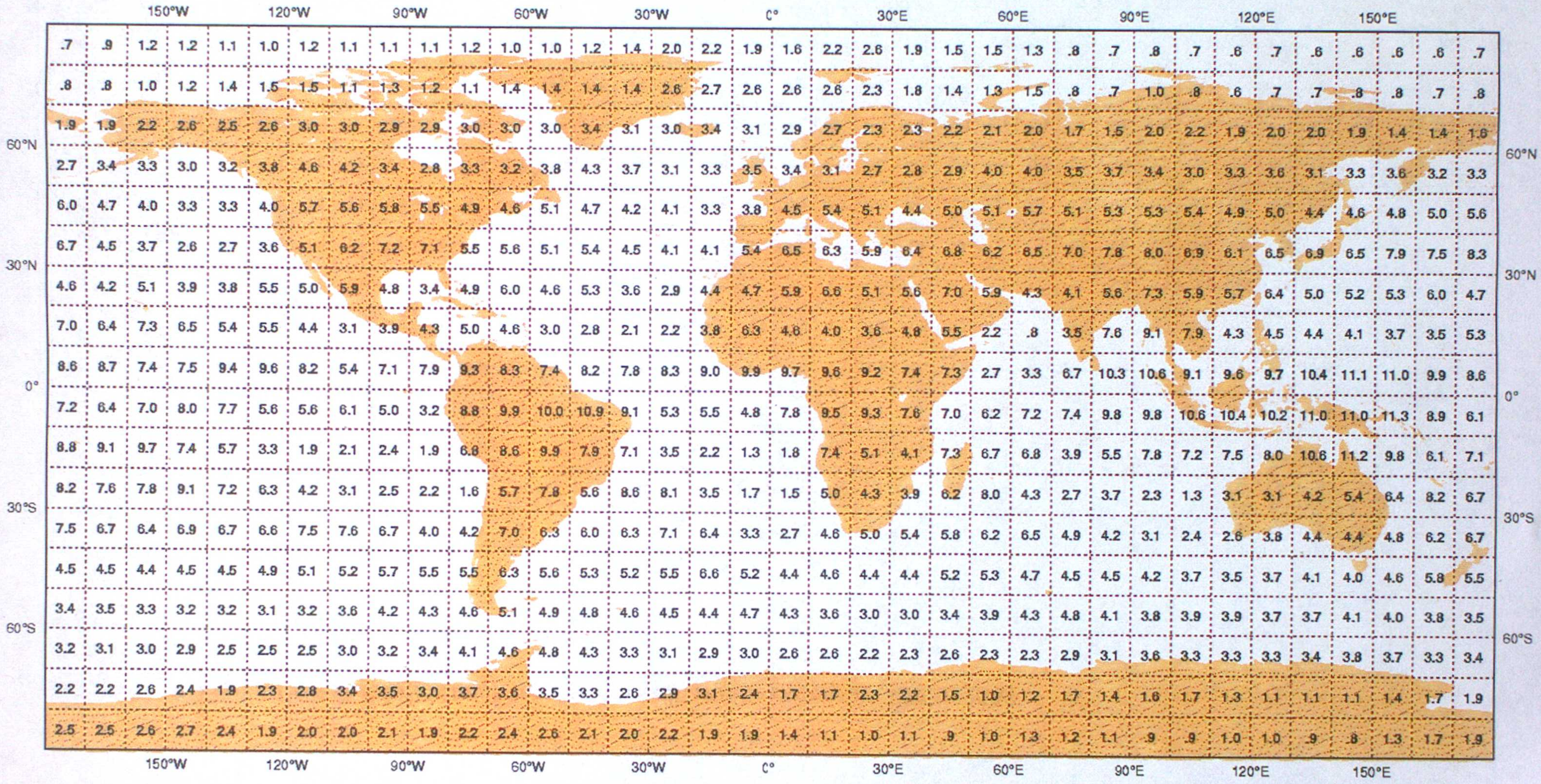
3.3	3.7	4.1	4.1	4.2	4.3	4.6	4.7	5.4	6.6	8.0	5.7	6.1	6.0	6.7	7.5	7.2	6.2	5.9	7.7	8.6	6.9	5.6	5.3	4.5	3.4	3.3	3.6	3.2	3.0	2.8	2.8	2.7	2.7	2.9	3.1
3.7	3.6	4.2	4.8	5.6	5.5	5.3	4.7	5.3	5.9	5.6	6.4	6.7	4.5	4.8	10.5	9.0	8.7	9.4	10.0	9.2	7.9	6.8	5.0	5.9	4.6	4.4	4.9	4.5	4.0	4.0	4.2	4.2	3.7	3.2	3.4
7.1	7.0	8.2	10.0	9.1	8.8	9.4	8.9	8.1	8.4	8.7	9.1	10.3	10.6	11.3	11.1	12.0	11.2	11.1	10.2	9.0	8.9	8.5	7.9	7.3	6.8	7.1	8.5	8.9	8.0	8.4	8.0	6.9	6.4	6.2	7.3
8.9	10.5	11.2	11.6	12.1	13.5	14.9	13.0	10.4	8.3	9.9	10.1	11.5	12.3	11.3	10.9	11.3	12.4	12.3	11.6	11.2	11.0	11.2	13.3	13.1	11.6	11.2	11.0	10.6	11.8	12.9	11.4	11.2	11.5	10.5	9.8
15.6	12.4	11.6	10.7	11.6	14.1	17.2	16.7	17.5	16.3	15.0	14.1	14.9	14.1	13.1	13.6	11.3	12.8	14.6	17.1	16.3	14.9	15.7	16.6	18.0	15.9	16.9	16.8	16.5	16.6	16.9	15.1	13.5	14.3	13.9	14.5
17.7	13.0	11.3	9.2	9.9	12.0	16.5	18.9	20.0	20.2	16.8	16.8	15.8	15.8	13.5	13.1	12.7	17.1	19.8	18.6	17.4	19.5	20.9	19.9	19.6	18.6	19.3	19.6	19.2	18.6	17.4	18.7	18.4	19.9	19.7	20.6
13.2	12.0	14.4	11.7	11.4	14.8	14.8	17.3	13.6	9.8	13.6	16.8	14.2	15.1	11.2	9.2	13.1	15.8	19.3	19.3	15.5	16.8	21.0	18.4	13.4	13.4	16.2	18.6	16.2	16.0	16.9	14.6	14.4	14.6	16.7	14.3
18.5	17.7	19.0	17.6	14.7	14.8	12.2	8.7	10.5	12.0	13.4	12.8	9.1	8.7	6.8	6.4	11.1	18.5	15.9	12.9	11.1	15.1	16.0	7.0	2.6	10.8	19.6	22.5	20.4	12.2	12.1	12.0	12.1	10.6	10.3	14.3
21.6	21.7	19.0	19.1	22.8	23.1	20.4	14.0	17.9	19.9	21.9	20.8	18.6	20.2	19.3	20.6	22.7	24.7	24.8	23.9	23.3	19.6	18.6	7.7	8.9	17.4	25.4	25.5	23.1	23.3	23.7	25.0	26.1	26.1	24.2	21.4
18.6	16.5	17.8	20.0	19.3	15.0	14.3	15.2	12.8	8.9	20.8	23.2	23.2	25.4	22.5	14.3	14.4	12.9	20.3	23.1	22.4	18.6	17.8	15.7	18.1	18.5	23.6	23.6	25.1	24.8	24.4	25.0	25.0	26.2	21.5	15.8
21.6	22.0	23.9	19.1	15.1	9.3	6.3	6.8	7.1	6.3	15.9	21.5	24.0	19.4	18.2	9.9	6.9	4.7	5.9	19.2	13.7	10.8	18.2	16.8	16.9	10.9	14.1	18.3	18.0	19.2	19.8	25.6	25.9	23.7	15.5	17.7
21.3	20.0	19.1	21.7	19.4	17.4	12.4	9.3	7.6	7.2	6.0	15.1	19.3	14.8	21.1	20.7	10.3	6.6	5.8	14.6	13.5	11.4	16.2	20.2	11.6	8.3	10.3	7.8	5.9	9.9	10.8	13.1	16.4	17.0	20.2	18.2
18.8	17.1	16.7	18.0	17.4	18.0	19.7	19.4	17.4	11.8	11.9	18.9	17.5	16.9	17.1	18.9	17.1	10.1	8.6	12.9	15.2	15.8	15.8	16.1	16.6	13.8	12.2	10.2	8.2	9.3	12.2	13.6	14.5	14.7	17.3	18.1
13.5	12.9	12.4	12.8	13.0	13.7	14.3	14.8	15.9	15.6	16.0	18.0	16.2	15.9	15.0	14.8	16.5	13.9	11.6	12.2	12.5	12.7	14.3	14.3	12.8	12.7	12.7	12.0	11.0	11.1	11.9	12.4	12.9	14.6	16.7	15.4
10.6	10.5	9.8	9.5	9.9	10.2	11.3	12.4	13.8	13.7	14.6	15.8	14.6	13.7	12.9	12.0	11.4	11.8	11.5	10.5	9.8	10.0	10.9	11.6	12.1	12.8	11.2	11.1	11.0	11.5	11.8	12.0	12.5	12.2	11.3	10.9
9.5	9.6	9.3	9.1	8.4	8.6	8.9	10.1	10.7	11.0	12.3	13.8	13.1	11.9	10.2	9.5	9.0	9.4	9.2	9.4	8.7	9.4	10.9	10.5	10.5	10.0	10.3	11.1	10.7	10.9	11.0	11.2	11.2	10.5	9.8	10.0
7.3	7.4	8.7	9.3	8.9	9.3	10.1	11.3	11.5	11.2	11.9	10.7	10.0	9.1	8.1	10.9	11.6	8.8	6.4	7.1	8.8	7.6	5.0	3.8	5.0	5.7	4.1	5.1	4.4	3.4	3.4	3.1	3.0	4.4	8.9	7.5
10.0	10.0	10.5	9.3	7.4	6.2	6.5	6.1	5.8	5.8	6.8	8.1	8.8	7.9	7.2	6.8	5.5	4.9	3.8	3.4	3.2	3.0	2.8	2.9	3.2	3.2	3.8	3.9	3.3	3.0	3.2	3.0	2.8	5.3	9.8	9.7

Figure 58. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



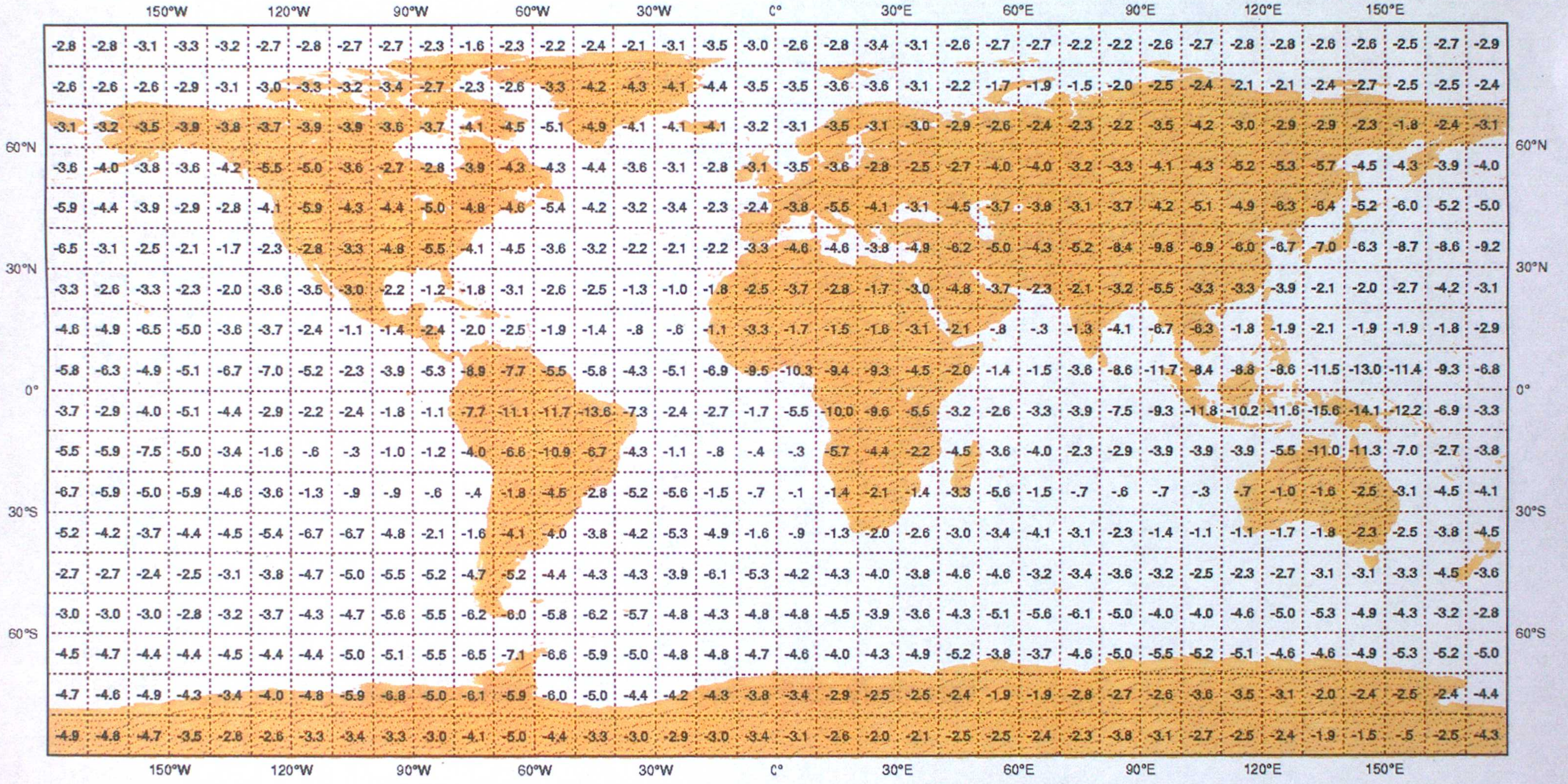
.9	.8	.7	.6	.6	.7	.6	.7	.8	.9	1.2	1.0	1.0	.8	.8	.3	-.1	-.1	.1	.0	-.2	.1	.3	.4	.5	.8	.8	.8	.8	.8	.8	.8	.9	.9	.9	.8
.9	.9	.8	.7	.6	.6	.7	.7	.7	1.0	1.2	1.1	.8	.6	.5	.1	-.5	-.4	-.5	-.5	-.4	-.1	.4	.8	.7	1.0	.9	.7	.8	.9	.9	.9	.9	.9	1.0	1.0
.4	.2	-.2	-.5	-.6	-.5	-.7	-.7	-.4	-.2	-.3	-.4	-.8	-.6	-.5	-.7	-.9	-.7	-.6	-.5	-.2	-.3	-.4	-.2	.1	.4	.4	.0	-.2	.2	.1	.0	.3	.6	.6	.4
-.8	-1.1	-1.0	-1.1	-1.6	-2.1	-2.1	-1.3	-.7	-.3	-1.0	-1.2	-1.5	-1.8	-1.2	-.8	-.8	-.9	-1.0	-1.0	-.6	-.7	-1.0	-2.0	-2.0	-1.3	-1.1	-1.1	-.8	-1.3	-1.4	-1.5	-1.2	-1.2	-1.2	-1.3
-3.7	-2.5	-1.8	-1.2	-1.2	-2.1	-3.3	-2.0	-2.1	-2.0	-1.8	-2.1	-2.9	-2.3	-1.5	-1.6	-.8	-.7	-1.4	-3.0	-2.3	-1.4	-2.8	-2.0	-1.8	-1.5	-1.3	-.8	-1.3	-1.3	-2.0	-2.3	-2.1	-2.6	-2.5	-2.8
-4.5	-1.7	-1.2	-.7	-.6	-1.2	-.8	-1.3	-3.0	-3.1	-2.0	-2.4	-1.8	-1.8	-1.1	-1.0	-.9	-1.2	-1.9	-2.2	-1.9	-2.5	-3.2	-1.7	-1.6	-2.6	-4.4	-5.5	-3.8	-3.2	-3.5	-4.2	-4.3	-6.1	-5.9	-6.8
-1.2	-.7	-1.7	-1.0	-.9	-2.1	-1.7	-1.2	-1.0	-.1	-1.1	-2.0	-1.3	-1.5	-.7	-.3	-.4	.3	-.4	-.8	-.1	-.5	-2.3	-1.7	-.3	.2	-1.4	-4.9	-3.3	-3.2	-3.5	-1.9	-1.7	-2.1	-2.7	-1.5
-3.1	-2.9	-4.3	-3.4	-2.6	-2.7	-1.2	.1	-.2	-1.0	-1.4	-1.7	-.6	-.4	-.2	.0	.1	-1.9	-.3	.2	.6	-.4	-.8	.5	.8	.0	-2.4	-5.0	-4.6	-.9	-1.0	-1.0	-.9	-.6	-.4	-1.4
-4.9	-5.1	-3.6	-3.5	-5.3	-5.2	-3.5	-1.1	-2.4	-3.7	-8.1	-6.1	-4.3	-4.4	-3.7	-3.9	-4.9	-6.9	-6.7	-6.7	-6.9	-4.5	-2.2	.2	.0	-2.2	-6.5	-9.2	-6.6	-7.0	-7.2	-9.1	-10.1	-8.9	-7.3	-5.7
-2.7	-2.2	-2.4	-3.3	-3.1	-1.8	-1.5	-1.7	-1.0	-.6	-8.0	-9.7	-9.9	-10.1	-5.5	-1.6	-1.5	-1.1	-3.7	-7.8	-7.3	-4.6	-2.6	-1.7	-2.3	-2.9	-5.7	-7.3	-9.9	-8.6	-9.2	-12.6	-11.7	-10.0	-5.3	-2.2
-3.6	-4.3	-5.4	-3.3	-1.7	-.2	.2	.0	-.2	-.1	-2.8	-4.6	-6.7	-4.7	-3.2	-.5	.0	.4	.2	-3.7	-1.7	-.8	-2.5	-2.1	-2.2	-.7	-1.6	-3.2	-3.0	-2.4	-3.5	-7.8	-9.2	-6.2	-2.0	-2.2
-4.7	-4.2	-3.4	-4.3	-3.2	-2.2	-.8	-.4	.0	.0	.2	-.7	-2.8	-2.0	-4.1	-4.2	-.5	.3	.2	-.9	-.7	-.5	-1.8	-4.2	-.9	.1	-.4	-.1	.3	.2	.0	-.2	-1.1	-2.2	-3.8	-2.8
-4.3	-3.5	-2.7	-3.3	-3.1	-3.5	-5.0	-4.9	-3.1	-.9	-.5	-1.9	-2.1	-2.6	-2.9	-4.1	-3.9	-.8	-.3	-.7	-1.3	-1.7	-2.0	-2.5	-3.2	-1.9	-1.3	-.7	-.3	-.3	-.9	-1.2	-.8	-1.3	-2.5	-3.1
-1.4	-1.4	-1.3	-1.6	-1.7	-2.1	-2.5	-2.6	-3.0	-3.1	-2.9	-2.7	-2.3	-2.4	-2.3	-2.5	-4.1	-3.2	-2.2	-2.2	-2.2	-2.1	-2.7	-2.8	-2.0	-1.9	-2.0	-1.9	-1.5	-1.3	-1.5	-1.7	-1.5	-1.8	-3.0	-2.1
-1.5	-1.6	-1.4	-1.2	-1.5	-1.5	-1.6	-1.8	-2.3	-2.4	-2.9	-2.8	-2.7	-3.2	-2.9	-2.5	-2.1	-2.3	-2.0	-1.6	-1.3	-1.2	-1.6	-2.2	-2.6	-3.0	-2.3	-1.8	-2.0	-2.3	-2.4	-2.3	-2.1	-2.0	-1.6	-1.5
-1.6	-1.7	-1.4	-1.2	-1.2	-1.1	-1.2	-1.5	-1.6	-1.8	-2.4	-2.5	-2.0	-1.6	-1.3	-1.3	-1.3	-1.3	-1.2	-1.0	-1.1	-1.4	-1.4	-.7	-.7	-1.2	-1.4	-1.7	-1.6	-1.6	-1.4	-1.4	-1.7	-1.9	-2.0	-2.0
-.3	-.3	-.4	-.1	.2	-.2	-.7	-1.2	-1.6	-1.0	-1.4	-1.0	-1.0	-.7	-.3	-.6	-.7	-.4	.0	.3	.2	.1	.3	.7	.6	.1	.2	.2	.1	.4	.7	.9	.8	.7	.6	-.1
.4	.3	.2	.4	.8	.9	.6	.5	.7	.7	.2	.0	.1	.5	.7	.8	.8	.8	.9	1.1	1.4	1.4	1.5	1.5	1.5	1.4	1.2	1.1	1.1	1.1	1.2	1.3	1.3	1.5	1.0	.7

Figure 59. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS15 (700 hPa)
NOAA18, using all observations



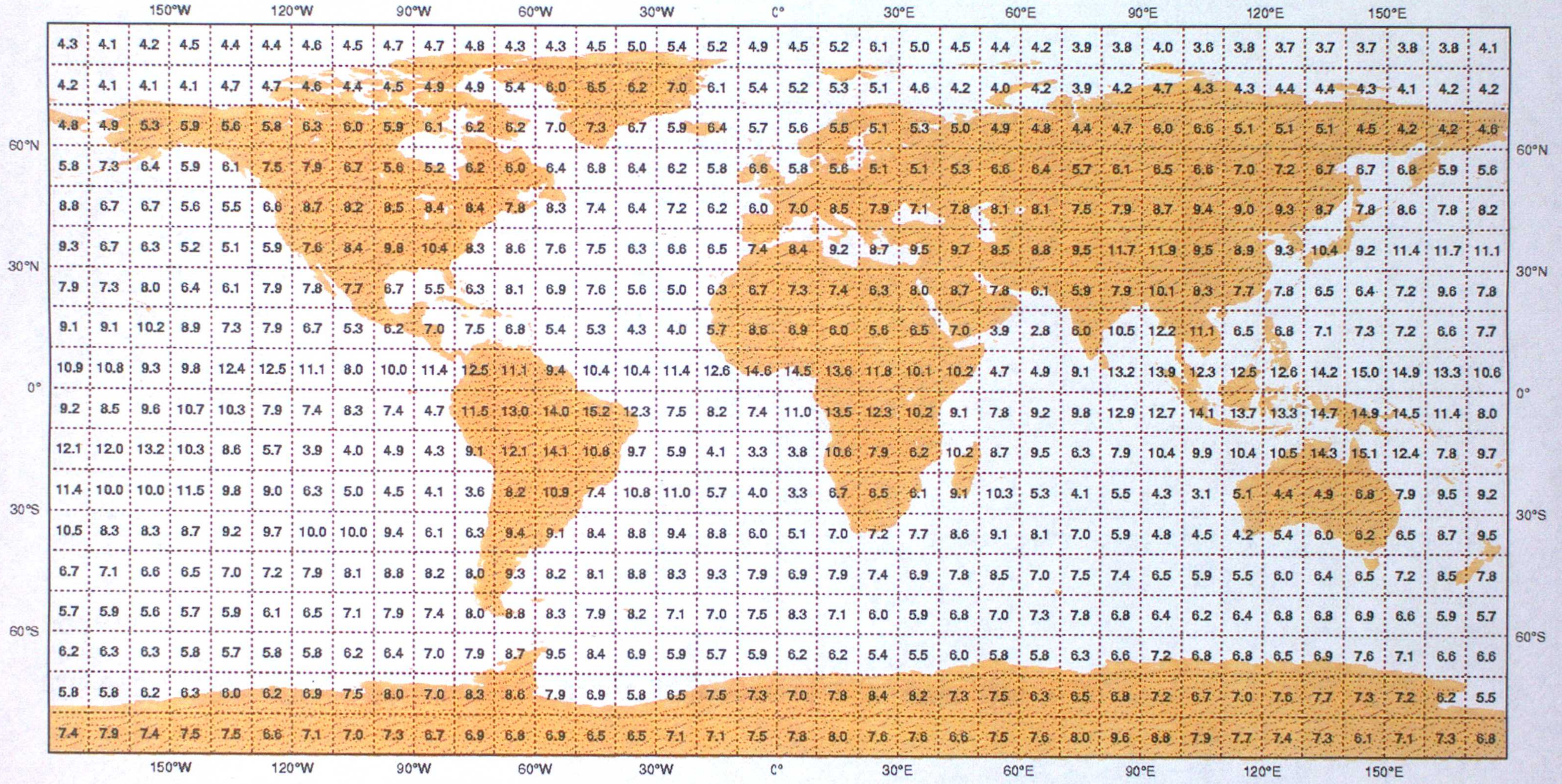
.7	.9	1.2	1.2	1.1	1.0	1.2	1.1	1.1	1.1	1.2	1.0	1.0	1.2	1.4	2.0	2.2	1.9	1.6	2.2	2.6	1.9	1.5	1.5	1.3	.8	.7	.8	.7	.6	.7	.6	.6	.6	.6	.7
.8	.8	1.0	1.2	1.4	1.5	1.5	1.1	1.3	1.2	1.1	1.4	1.4	1.4	1.4	2.6	2.7	2.6	2.6	2.6	2.3	1.8	1.4	1.3	1.5	.8	.7	1.0	.8	.6	.7	.7	.8	.8	.7	.8
1.9	1.9	2.2	2.6	2.5	2.6	3.0	3.0	2.9	2.9	3.0	3.0	3.0	3.4	3.1	3.0	3.4	3.1	2.9	2.7	2.3	2.3	2.2	2.1	2.0	1.7	1.5	2.0	2.2	1.9	2.0	2.0	1.9	1.4	1.4	1.6
2.7	3.4	3.3	3.0	3.2	3.8	4.6	4.2	3.4	2.8	3.3	3.2	3.8	4.3	3.7	3.1	3.3	3.5	3.4	3.1	2.7	2.8	2.9	4.0	4.0	3.5	3.7	3.4	3.0	3.3	3.6	3.1	3.3	3.6	3.2	3.3
6.0	4.7	4.0	3.3	3.3	4.0	5.7	5.6	5.8	5.5	4.9	4.6	5.1	4.7	4.2	4.1	3.3	3.8	4.5	5.4	5.1	4.4	5.0	5.1	5.7	5.1	5.3	5.3	5.4	4.9	5.0	4.4	4.6	4.8	5.0	5.6
6.7	4.5	3.7	2.6	2.7	3.6	5.1	6.2	7.2	7.1	5.5	5.6	5.1	5.4	4.5	4.1	4.1	5.4	6.5	6.3	5.9	6.4	6.8	6.2	6.5	7.0	7.8	8.0	6.9	6.1	6.5	6.9	6.5	7.9	7.5	8.3
4.6	4.2	5.1	3.9	3.8	5.5	5.0	5.9	4.8	3.4	4.9	6.0	4.6	5.3	3.6	2.9	4.4	4.7	5.9	6.6	5.1	5.6	7.0	5.9	4.3	4.1	5.6	7.3	5.9	5.7	6.4	5.0	5.2	5.3	6.0	4.7
7.0	6.4	7.3	6.5	5.4	5.5	4.4	3.1	3.9	4.3	5.0	4.6	3.0	2.8	2.1	2.2	3.8	6.3	4.6	4.0	3.6	4.8	5.5	2.2	.8	3.5	7.6	9.1	7.9	4.3	4.5	4.4	4.1	3.7	3.5	5.3
8.6	8.7	7.4	7.5	9.4	9.6	8.2	5.4	7.1	7.9	9.3	8.3	7.4	8.2	7.8	8.3	9.0	9.9	9.7	9.6	9.2	7.4	7.3	2.7	3.3	6.7	10.3	10.6	9.1	9.6	9.7	10.4	11.1	11.0	9.9	8.6
7.2	6.4	7.0	8.0	7.7	5.6	5.6	6.1	5.0	3.2	8.8	9.9	10.0	10.9	9.1	5.3	5.5	4.8	7.8	9.5	9.3	7.6	7.0	6.2	7.2	7.4	9.8	9.8	10.6	10.4	10.2	11.0	11.0	11.3	8.9	6.1
8.8	9.1	9.7	7.4	5.7	3.3	1.9	2.1	2.4	1.9	6.8	8.6	9.9	7.9	7.1	3.5	2.2	1.3	1.8	7.4	5.1	4.1	7.3	6.7	6.8	3.9	5.5	7.8	7.2	7.5	8.0	10.6	11.2	9.8	6.1	7.1
8.2	7.6	7.8	9.1	7.2	6.3	4.2	3.1	2.5	2.2	1.6	5.7	7.8	5.6	8.6	8.1	3.5	1.7	1.5	5.0	4.3	3.9	6.2	8.0	4.3	2.7	3.7	2.3	1.3	3.1	3.1	4.2	5.4	6.4	8.2	6.7
7.5	6.7	6.4	6.9	6.7	6.6	7.5	7.6	6.7	4.0	4.2	7.0	6.3	6.0	6.3	7.1	6.4	3.3	2.7	4.6	5.0	5.4	5.8	6.2	6.5	4.9	4.2	3.1	2.4	2.6	3.8	4.4	4.4	4.8	6.2	6.7
4.5	4.5	4.4	4.5	4.5	4.9	5.1	5.2	5.7	5.5	5.5	6.3	5.6	5.3	5.2	5.5	6.6	5.2	4.4	4.6	4.4	4.4	5.2	5.3	4.7	4.5	4.5	4.2	3.7	3.5	3.7	4.1	4.0	4.6	5.8	5.5
3.4	3.5	3.3	3.2	3.2	3.1	3.2	3.6	4.2	4.3	4.6	5.1	4.9	4.8	4.6	4.5	4.4	4.7	4.3	3.6	3.0	3.0	3.4	3.9	4.3	4.8	4.1	3.8	3.9	3.9	3.7	3.7	4.1	4.0	3.8	3.5
3.2	3.1	3.0	2.9	2.5	2.5	2.5	3.0	3.2	3.4	4.1	4.6	4.8	4.3	3.3	3.1	2.9	3.0	2.6	2.6	2.2	2.3	2.6	2.3	2.3	2.9	3.1	3.6	3.3	3.3	3.3	3.4	3.8	3.7	3.3	3.4
2.2	2.2	2.6	2.4	1.9	2.3	2.8	3.4	3.5	3.0	3.7	3.6	3.5	3.3	2.6	2.9	3.1	2.4	1.7	1.7	2.3	2.2	1.5	1.0	1.2	1.7	1.4	1.6	1.7	1.3	1.1	1.1	1.1	1.4	1.7	1.9
2.5	2.5	2.6	2.7	2.4	1.9	2.0	2.0	2.1	1.9	2.2	2.4	2.6	2.1	2.0	2.2	1.9	1.9	1.4	1.1	1.0	1.1	.9	1.0	1.3	1.2	1.1	.9	.9	1.0	1.0	.9	.8	1.3	1.7	1.9

Figure 60. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



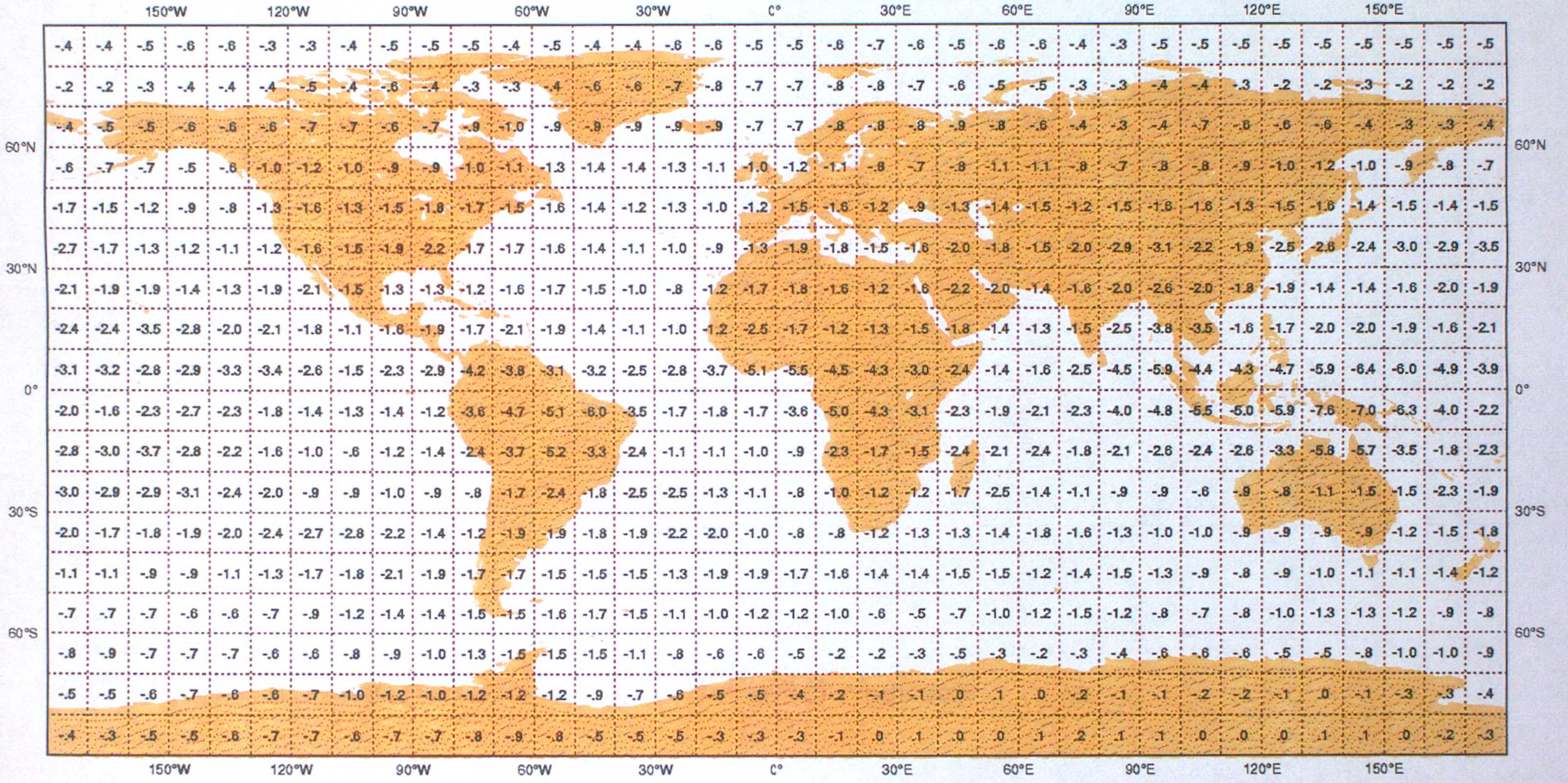
-2.8	-2.8	-3.1	-3.3	-3.2	-2.7	-2.8	-2.7	-2.7	-2.3	-1.6	-2.3	-2.2	-2.4	-2.1	-3.1	-3.5	-3.0	-2.6	-2.8	-3.4	-3.1	-2.6	-2.7	-2.7	-2.2	-2.2	-2.6	-2.7	-2.8	-2.8	-2.6	-2.6	-2.5	-2.7	-2.9
-2.6	-2.6	-2.6	-2.9	-3.1	-3.0	-3.3	-3.2	-3.4	-2.7	-2.3	-2.6	-3.3	-4.2	-4.3	-4.1	-4.4	-3.5	-3.5	-3.6	-3.6	-3.1	-2.2	-1.7	-1.9	-1.5	-2.0	-2.5	-2.4	-2.1	-2.1	-2.4	-2.7	-2.5	-2.5	-2.4
-3.1	-3.2	-3.5	-3.9	-3.8	-3.7	-3.9	-3.9	-3.6	-3.7	-4.1	-4.5	-5.1	-4.9	-4.1	-4.1	-4.1	-3.2	-3.1	-3.5	-3.1	-3.0	-2.9	-2.6	-2.4	-2.3	-2.2	-3.5	-4.2	-3.0	-2.9	-2.9	-2.3	-1.8	-2.4	-3.1
-3.6	-4.0	-3.8	-3.6	-4.2	-5.5	-5.0	-3.6	-2.7	-2.8	-3.9	-4.3	-4.3	-4.4	-3.6	-3.1	-2.8	-3.1	-3.5	-3.6	-2.8	-2.5	-2.7	-4.0	-4.0	-3.2	-3.3	-4.1	-4.3	-5.2	-5.3	-5.7	-4.5	-4.3	-3.9	-4.0
-5.9	-4.4	-3.9	-2.9	-2.8	-4.1	-5.9	-4.3	-4.4	-5.0	-4.8	-4.6	-5.4	-4.2	-3.2	-3.4	-2.3	-2.4	-3.8	-5.5	-4.1	-3.1	-4.5	-3.7	-3.8	-3.1	-3.7	-4.2	-5.1	-4.9	-6.3	-6.4	-5.2	-6.0	-5.2	-5.0
-6.5	-3.1	-2.5	-2.1	-1.7	-2.3	-2.8	-3.3	-4.8	-5.5	-4.1	-4.5	-3.6	-3.2	-2.2	-2.1	-2.2	-3.3	-4.6	-4.6	-3.8	-4.9	-6.2	-5.0	-4.3	-5.2	-8.4	-9.8	-6.9	-6.0	-6.7	-7.0	-6.3	-8.7	-8.6	-9.2
-3.3	-2.6	-3.3	-2.3	-2.0	-3.6	-3.5	-3.0	-2.2	-1.2	-1.8	-3.1	-2.6	-2.5	-1.3	-1.0	-1.8	-2.5	-3.7	-2.8	-1.7	-3.0	-4.8	-3.7	-2.3	-2.1	-3.2	-5.5	-3.3	-3.3	-3.9	-2.1	-2.0	-2.7	-4.2	-3.1
-4.6	-4.9	-6.5	-5.0	-3.6	-3.7	-2.4	-1.1	-1.4	-2.4	-2.0	-2.5	-1.9	-1.4	-.8	-.6	-1.1	-3.3	-1.7	-1.5	-1.6	-3.1	-2.1	-.8	-.3	-1.3	-4.1	-6.7	-6.3	-1.8	-1.9	-2.1	-1.9	-1.9	-1.8	-2.9
-5.8	-6.3	-4.9	-5.1	-6.7	-7.0	-5.2	-2.3	-3.9	-5.3	-8.9	-7.7	-5.5	-5.8	-4.3	-5.1	-6.9	-9.5	-10.3	-9.4	-9.3	-4.5	-2.0	-1.4	-1.5	-3.6	-8.6	-11.7	-8.4	-8.8	-8.6	-11.5	-13.0	-11.4	-9.3	-6.8
-3.7	-2.9	-4.0	-5.1	-4.4	-2.9	-2.2	-2.4	-1.8	-1.1	-7.7	-11.1	-11.7	-13.6	-7.3	-2.4	-2.7	-1.7	-5.5	-10.0	-9.6	-5.5	-3.2	-2.6	-3.3	-3.9	-7.5	-9.3	-11.8	-10.2	-11.6	-15.6	-14.1	-12.2	-6.9	-3.3
-5.5	-5.9	-7.5	-5.0	-3.4	-1.6	-.6	-.3	-1.0	-1.2	-4.0	-6.6	-10.9	-6.7	-4.3	-1.1	-.8	-.4	-.3	-5.7	-4.4	-2.2	-4.5	-3.6	-4.0	-2.3	-2.9	-3.9	-3.9	-3.9	-5.5	-11.0	-11.3	-7.0	-2.7	-3.8
-6.7	-5.9	-5.0	-5.9	-4.6	-3.6	-1.3	-.9	-.9	-.6	-.4	-1.8	-4.5	-2.8	-5.2	-5.6	-1.5	-.7	-.1	-1.4	-2.1	-1.4	-3.3	-5.6	-1.5	-.7	-.6	-.7	-.3	-.7	-1.0	-1.6	-2.5	-3.1	-4.5	-4.1
-5.2	-4.2	-3.7	-4.4	-4.5	-5.4	-6.7	-6.7	-4.8	-2.1	-1.6	-4.1	-4.0	-3.8	-4.2	-5.3	-4.9	-1.6	-.9	-1.3	-2.0	-2.6	-3.0	-3.4	-4.1	-3.1	-2.3	-1.4	-1.1	-1.1	-1.7	-1.8	-2.3	-2.5	-3.8	-4.5
-2.7	-2.7	-2.4	-2.5	-3.1	-3.8	-4.7	-5.0	-5.5	-5.2	-4.7	-5.2	-4.4	-4.3	-4.3	-3.9	-6.1	-5.3	-4.2	-4.3	-4.0	-3.8	-4.6	-4.6	-3.2	-3.4	-3.6	-3.2	-2.5	-2.3	-2.7	-3.1	-3.1	-3.3	-4.5	-3.6
-3.0	-3.0	-3.0	-2.8	-3.2	-3.7	-4.3	-4.7	-5.6	-5.5	-6.2	-6.0	-5.8	-6.2	-5.7	-4.8	-4.3	-4.8	-4.8	-4.5	-3.9	-3.6	-4.3	-5.1	-5.6	-6.1	-5.0	-4.0	-4.0	-4.6	-5.0	-5.3	-4.9	-4.3	-3.2	-2.8
-4.5	-4.7	-4.4	-4.4	-4.5	-4.4	-4.4	-5.0	-5.1	-5.5	-6.5	-7.1	-6.6	-5.9	-5.0	-4.8	-4.8	-4.7	-4.6	-4.0	-4.3	-4.9	-5.2	-3.8	-3.7	-4.6	-5.0	-5.5	-5.2	-5.1	-4.6	-4.6	-4.9	-5.3	-5.2	-5.0
-4.7	-4.6	-4.9	-4.3	-3.4	-4.0	-4.8	-5.9	-6.8	-5.0	-6.1	-5.9	-6.0	-5.0	-4.4	-4.2	-4.3	-3.8	-3.4	-2.9	-2.5	-2.5	-2.4	-1.9	-1.9	-2.8	-2.7	-2.6	-3.6	-3.5	-3.1	-2.0	-2.4	-2.5	-2.4	-4.4
-4.9	-4.8	-4.7	-3.5	-2.8	-2.6	-3.3	-3.4	-3.3	-3.0	-4.1	-5.0	-4.4	-3.3	-3.0	-2.9	-3.0	-3.4	-3.1	-2.6	-2.0	-2.1	-2.5	-2.5	-2.4	-2.3	-3.8	-3.1	-2.7	-2.5	-2.4	-1.9	-1.5	-.5	-2.5	-4.3

Figure 61. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS11 (500 - 700 hPa)
NOAA18, using all observations



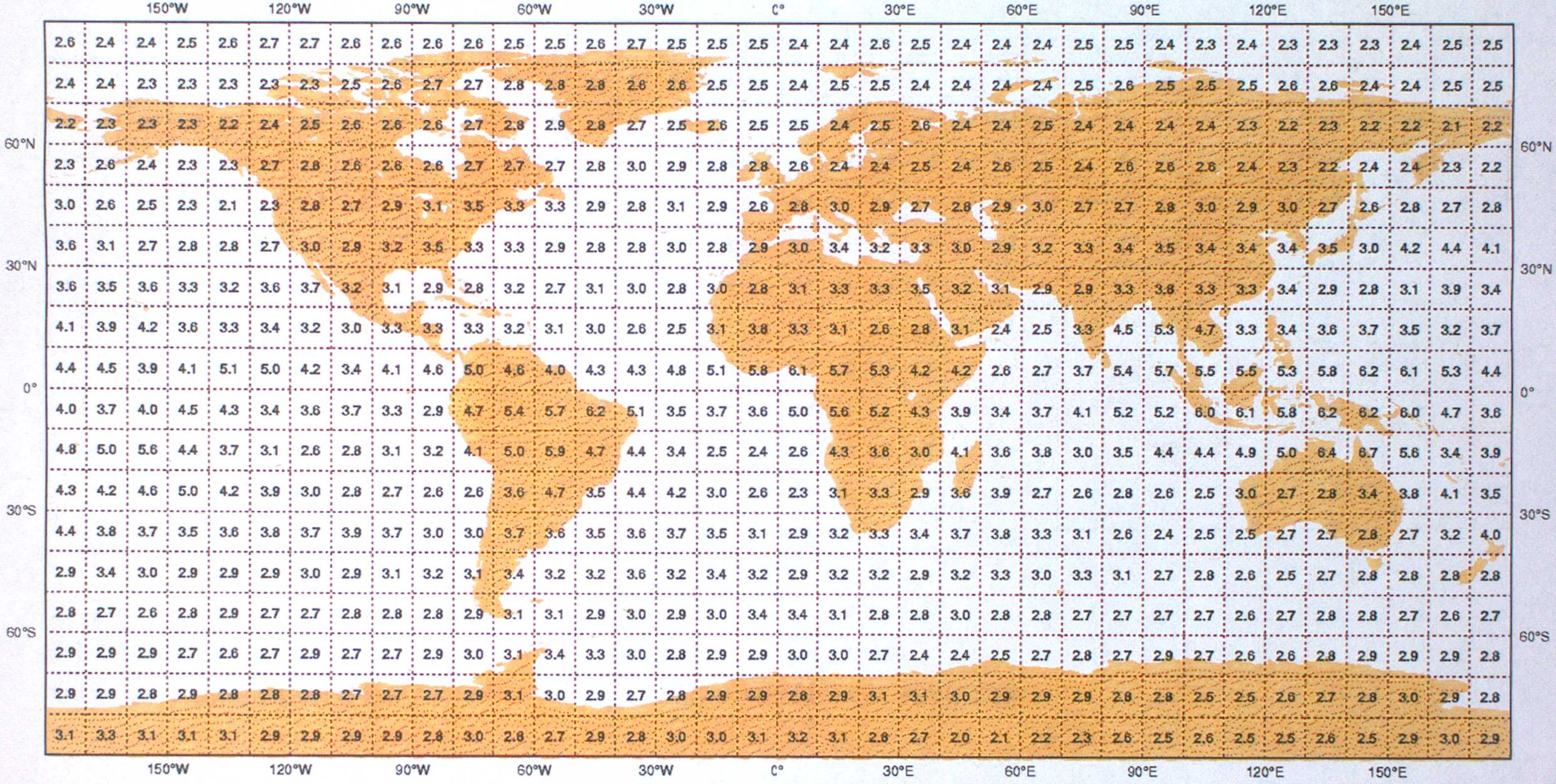
4.3	4.1	4.2	4.5	4.4	4.4	4.6	4.5	4.7	4.7	4.8	4.3	4.3	4.5	5.0	5.4	5.2	4.9	4.5	5.2	6.1	5.0	4.5	4.4	4.2	3.9	3.8	4.0	3.6	3.8	3.7	3.7	3.7	3.8	3.8	4.1
4.2	4.1	4.1	4.1	4.7	4.7	4.6	4.4	4.5	4.9	4.9	5.4	6.0	6.5	6.2	7.0	6.1	5.4	5.2	5.3	5.1	4.6	4.2	4.0	4.2	3.9	4.2	4.7	4.3	4.3	4.4	4.4	4.3	4.1	4.2	4.2
4.8	4.9	5.3	5.9	5.6	5.8	6.3	6.0	5.9	6.1	6.2	6.2	7.0	7.3	6.7	5.9	6.4	5.7	5.6	5.5	5.1	5.3	5.0	4.9	4.8	4.4	4.7	6.0	6.6	5.1	5.1	5.1	4.5	4.2	4.2	4.6
5.8	7.3	6.4	5.9	6.1	7.5	7.9	6.7	5.6	5.2	6.2	6.0	6.4	6.8	6.4	6.2	5.8	6.6	5.8	5.6	5.1	5.1	5.3	6.6	6.4	5.7	6.1	6.5	6.8	7.0	7.2	6.7	6.7	6.8	5.9	5.6
8.8	6.7	6.7	5.6	5.5	6.6	8.7	8.2	8.5	8.4	8.4	7.8	8.3	7.4	6.4	7.2	6.2	6.0	7.0	8.5	7.9	7.1	7.8	8.1	8.1	7.5	7.9	8.7	9.4	9.0	9.3	8.7	7.8	8.6	7.8	8.2
9.3	6.7	6.3	5.2	5.1	5.9	7.6	8.4	9.8	10.4	8.3	8.6	7.6	7.5	6.3	6.6	6.5	7.4	8.4	9.2	8.7	9.5	9.7	8.5	8.8	9.5	11.7	11.9	9.5	8.9	9.3	10.4	9.2	11.4	11.7	11.1
7.9	7.3	8.0	6.4	6.1	7.9	7.8	7.7	6.7	5.5	6.3	8.1	6.9	7.6	5.6	5.0	6.3	6.7	7.3	7.4	6.3	8.0	8.7	7.8	6.1	5.9	7.9	10.1	8.3	7.7	7.8	6.5	6.4	7.2	9.6	7.8
9.1	9.1	10.2	8.9	7.3	7.9	6.7	5.3	6.2	7.0	7.5	6.8	5.4	5.3	4.3	4.0	5.7	8.6	6.9	6.0	5.6	6.5	7.0	3.9	2.8	6.0	10.5	12.2	11.1	6.5	6.8	7.1	7.3	7.2	6.6	7.7
10.9	10.8	9.3	9.8	12.4	12.5	11.1	8.0	10.0	11.4	12.5	11.1	9.4	10.4	10.4	11.4	12.6	14.6	14.5	13.6	11.8	10.1	10.2	4.7	4.9	9.1	13.2	13.9	12.3	12.5	12.6	14.2	15.0	14.9	13.3	10.6
9.2	8.5	9.6	10.7	10.3	7.9	7.4	8.3	7.4	4.7	11.5	13.0	14.0	15.2	12.3	7.5	8.2	7.4	11.0	13.5	12.3	10.2	9.1	7.8	9.2	9.8	12.9	12.7	14.1	13.7	13.3	14.7	14.9	14.5	11.4	8.0
12.1	12.0	13.2	10.3	8.6	5.7	3.9	4.0	4.9	4.3	9.1	12.1	14.1	10.8	9.7	5.9	4.1	3.3	3.8	10.6	7.9	6.2	10.2	8.7	9.5	6.3	7.9	10.4	9.9	10.4	10.5	14.3	15.1	12.4	7.8	9.7
11.4	10.0	10.0	11.5	9.8	9.0	6.3	5.0	4.5	4.1	3.6	8.2	10.9	7.4	10.8	11.0	5.7	4.0	3.3	6.7	6.5	6.1	9.1	10.3	5.3	4.1	5.5	4.3	3.1	5.1	4.4	4.9	6.8	7.9	9.5	9.2
10.5	8.3	8.3	8.7	9.2	9.7	10.0	10.0	9.4	6.1	6.3	9.4	9.1	8.4	8.8	9.4	8.8	6.0	5.1	7.0	7.2	7.7	8.6	9.1	8.1	7.0	5.9	4.8	4.5	4.2	5.4	6.0	6.2	6.5	8.7	9.5
6.7	7.1	6.6	6.5	7.0	7.2	7.9	8.1	8.8	8.2	8.0	9.3	8.2	8.1	8.8	8.3	9.3	7.9	6.9	7.9	7.4	6.9	7.8	8.5	7.0	7.5	7.4	6.5	5.9	5.5	6.0	6.4	6.5	7.2	8.5	7.8
5.7	5.9	5.6	5.7	5.9	6.1	6.5	7.1	7.9	7.4	8.0	8.8	8.3	7.9	8.2	7.1	7.0	7.5	8.3	7.1	6.0	5.9	6.8	7.0	7.3	7.8	6.8	6.4	6.2	6.4	6.8	6.8	6.9	6.6	5.9	5.7
6.2	6.3	6.3	5.8	5.7	5.8	5.8	6.2	6.4	7.0	7.9	8.7	9.5	8.4	6.9	5.9	5.7	5.9	6.2	6.2	5.4	5.5	6.0	5.8	5.8	6.3	6.6	7.2	6.8	6.8	6.5	6.9	7.6	7.1	6.6	6.6
5.8	5.8	6.2	6.3	6.0	6.2	6.9	7.5	8.0	7.0	8.3	8.6	7.9	6.9	5.8	6.5	7.5	7.3	7.0	7.8	8.4	8.2	7.3	7.5	6.3	6.5	6.8	7.2	6.7	7.0	7.6	7.7	7.3	7.2	6.2	5.5
7.4	7.9	7.4	7.5	7.5	6.6	7.1	7.0	7.3	6.7	6.9	6.8	6.9	6.5	6.5	7.1	7.1	7.5	7.8	8.0	7.6	7.6	6.6	7.5	7.6	8.0	9.6	8.8	7.9	7.7	7.4	7.3	6.1	7.1	7.3	6.8

Figure 62. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



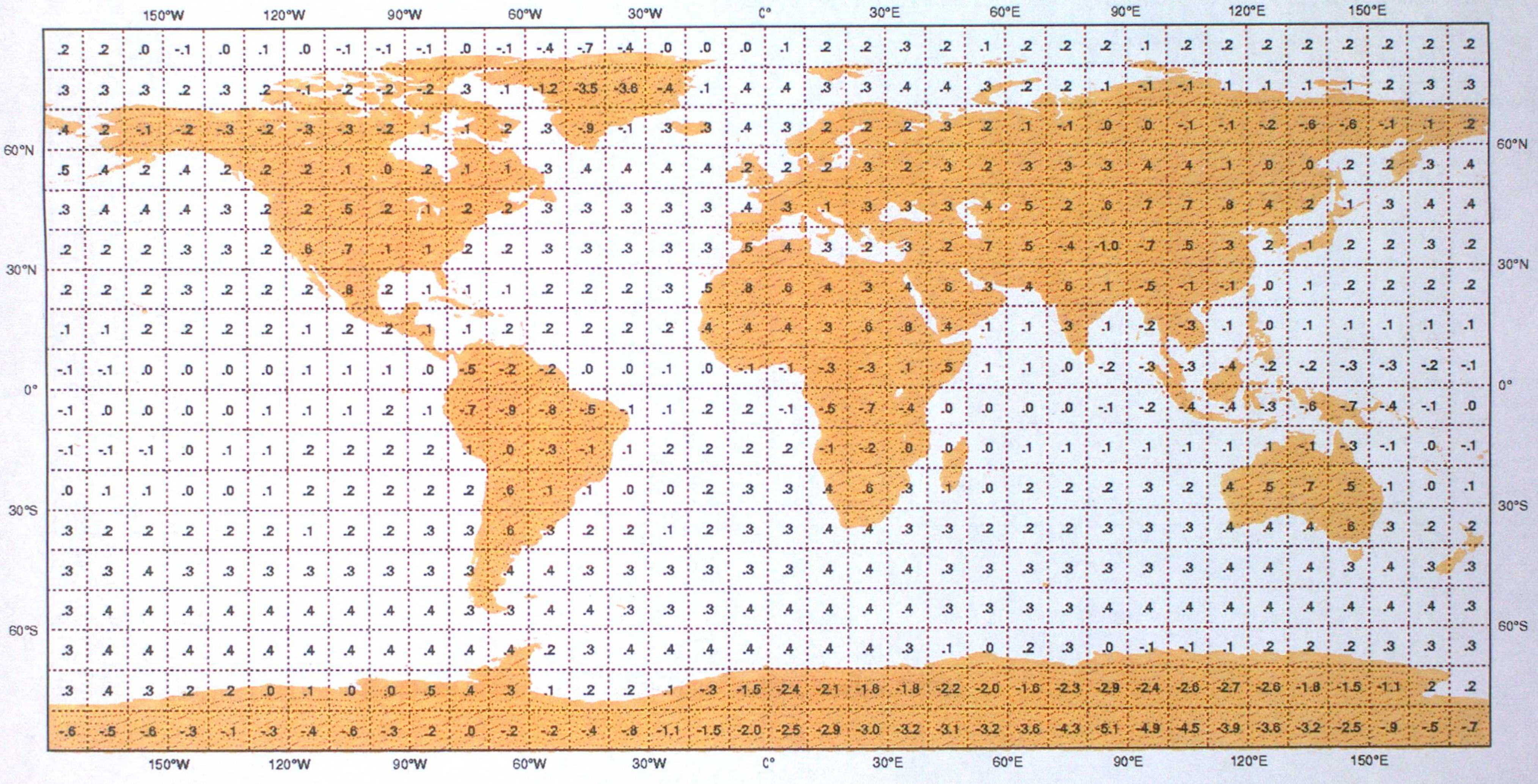
-.4	-.4	-.5	-.6	-.6	-.3	-.3	-.4	-.5	-.5	-.5	-.4	-.5	-.4	-.4	-.6	-.6	-.5	-.5	-.6	-.7	-.6	-.5	-.6	-.6	-.4	-.3	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.2	-.2	-.3	-.4	-.4	-.4	-.5	-.4	-.6	-.4	-.3	-.3	-.4	-.6	-.6	-.7	-.8	-.7	-.7	-.8	-.8	-.7	-.6	-.5	-.5	-.3	-.3	-.4	-.4	-.3	-.2	-.2	-.3	-.2	-.2	-.2
-.4	-.5	-.5	-.6	-.6	-.6	-.7	-.7	-.6	-.7	-.9	-1.0	-.9	-.9	-.9	-.9	-.9	-.7	-.7	-.8	-.8	-.8	-.9	-.8	-.6	-.4	-.3	-.4	-.7	-.6	-.6	-.6	-.4	-.3	-.3	-.4
-.6	-.7	-.7	-.5	-.6	-1.0	-1.2	-1.0	-.9	-.9	-1.0	-1.1	-1.3	-1.4	-1.4	-1.3	-1.1	-1.0	-1.2	-1.1	-.8	-.7	-.8	-1.1	-1.1	-.8	-.7	-.8	-.8	-.9	-1.0	-1.2	-1.0	-.9	-.8	-.7
-1.7	-1.5	-1.2	-.9	-.8	-1.3	-1.6	-1.3	-1.5	-1.8	-1.7	-1.5	-1.6	-1.4	-1.2	-1.3	-1.0	-1.2	-1.5	-1.6	-1.2	-.9	-1.3	-1.4	-1.5	-1.2	-1.5	-1.6	-1.6	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4	-1.5
-2.7	-1.7	-1.3	-1.2	-1.1	-1.2	-1.6	-1.5	-1.9	-2.2	-1.7	-1.7	-1.6	-1.4	-1.1	-1.0	-.9	-1.3	-1.9	-1.8	-1.5	-1.6	-2.0	-1.8	-1.5	-2.0	-2.9	-3.1	-2.2	-1.9	-2.5	-2.6	-2.4	-3.0	-2.9	-3.5
-2.1	-1.9	-1.9	-1.4	-1.3	-1.9	-2.1	-1.5	-1.3	-1.3	-1.2	-1.6	-1.7	-1.5	-1.0	-.8	-1.2	-1.7	-1.8	-1.6	-1.2	-1.6	-2.2	-2.0	-1.4	-1.6	-2.0	-2.6	-2.0	-1.8	-1.9	-1.4	-1.4	-1.6	-2.0	-1.9
-2.4	-2.4	-3.5	-2.8	-2.0	-2.1	-1.8	-1.1	-1.6	-1.9	-1.7	-2.1	-1.9	-1.4	-1.1	-1.0	-1.2	-2.5	-1.7	-1.2	-1.3	-1.5	-1.8	-1.4	-1.3	-1.5	-2.5	-3.8	-3.5	-1.6	-1.7	-2.0	-2.0	-1.9	-1.6	-2.1
-3.1	-3.2	-2.8	-2.9	-3.3	-3.4	-2.6	-1.5	-2.3	-2.9	-4.2	-3.8	-3.1	-3.2	-2.5	-2.8	-3.7	-5.1	-5.5	-4.5	-4.3	-3.0	-2.4	-1.4	-1.6	-2.5	-4.5	-5.9	-4.4	-4.3	-4.7	-5.9	-6.4	-6.0	-4.9	-3.9
-2.0	-1.6	-2.3	-2.7	-2.3	-1.8	-1.4	-1.3	-1.4	-1.2	-3.6	-4.7	-5.1	-6.0	-3.5	-1.7	-1.8	-1.7	-3.6	-5.0	-4.3	-3.1	-2.3	-1.9	-2.1	-2.3	-4.0	-4.8	-5.5	-5.0	-5.9	-7.6	-7.0	-6.3	-4.0	-2.2
-2.8	-3.0	-3.7	-2.8	-2.2	-1.6	-1.0	-.6	-1.2	-1.4	-2.4	-3.7	-5.2	-3.3	-2.4	-1.1	-1.1	-1.0	-.9	-2.3	-1.7	-1.5	-2.4	-2.1	-2.4	-1.8	-2.1	-2.6	-2.4	-2.6	-3.3	-5.8	-5.7	-3.5	-1.8	-2.3
-3.0	-2.9	-2.9	-3.1	-2.4	-2.0	-.9	-.9	-1.0	-.9	-.8	-1.7	-2.4	-1.8	-2.5	-2.5	-1.3	-1.1	-.8	-1.0	-1.2	-1.2	-1.7	-2.5	-1.4	-1.1	-.9	-.9	-.6	-.9	-.8	-1.1	-1.5	-1.5	-2.3	-1.9
-2.0	-1.7	-1.8	-1.9	-2.0	-2.4	-2.7	-2.8	-2.2	-1.4	-1.2	-1.9	-1.9	-1.8	-1.9	-2.2	-2.0	-1.0	-.8	-.8	-1.2	-1.3	-1.3	-1.4	-1.8	-1.6	-1.3	-1.0	-1.0	-.9	-.9	-.9	-.9	-1.2	-1.5	-1.8
-1.1	-1.1	-.9	-.9	-1.1	-1.3	-1.7	-1.8	-2.1	-1.9	-1.7	-1.7	-1.5	-1.5	-1.5	-1.3	-1.9	-1.9	-1.7	-1.6	-1.4	-1.4	-1.5	-1.5	-1.2	-1.4	-1.5	-1.3	-.9	-.8	-.9	-1.0	-1.1	-1.1	-1.4	-1.2
-.7	-.7	-.7	-.6	-.6	-.7	-.9	-1.2	-1.4	-1.4	-1.5	-1.5	-1.6	-1.7	-1.5	-1.1	-1.0	-1.2	-1.2	-1.0	-.6	-.5	-.7	-1.0	-1.2	-1.5	-1.2	-.8	-.7	-.8	-1.0	-1.3	-1.3	-1.2	-.9	-.8
-.8	-.9	-.7	-.7	-.7	-.6	-.6	-.8	-.9	-1.0	-1.3	-1.5	-1.5	-1.5	-1.1	-.8	-.6	-.6	-.5	-.2	-.2	-.3	-.5	-.3	-.2	-.3	-.4	-.6	-.6	-.6	-.5	-.5	-.8	-1.0	-1.0	-.9
-.5	-.5	-.6	-.7	-.6	-.6	-.7	-1.0	-1.2	-1.0	-1.2	-1.2	-1.2	-.9	-.7	-.6	-.5	-.5	-.4	-.2	-.1	-.1	.0	.1	.0	-.2	-.1	-.1	-.2	-.2	-.1	.0	-.1	-.3	-.3	-.4
-.4	-.3	-.5	-.5	-.6	-.7	-.7	-.6	-.7	-.7	-.8	-.9	-.8	-.5	-.5	-.5	-.3	-.3	-.3	-.1	.0	.1	.0	.0	.1	.2	.1	.1	.0	.0	.0	.1	.1	.0	-.2	-.3

Figure 63. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: HIRS4 (400 hPa)
NOAA18, using all observations



2.6	2.4	2.4	2.5	2.6	2.7	2.7	2.6	2.6	2.6	2.6	2.5	2.5	2.6	2.7	2.5	2.5	2.5	2.4	2.4	2.6	2.5	2.4	2.4	2.4	2.5	2.5	2.4	2.3	2.4	2.3	2.3	2.3	2.4	2.5	2.5
2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.5	2.6	2.7	2.7	2.8	2.8	2.8	2.6	2.6	2.5	2.5	2.4	2.5	2.5	2.4	2.4	2.4	2.4	2.5	2.6	2.5	2.5	2.5	2.6	2.6	2.4	2.4	2.5	2.5
2.2	2.3	2.3	2.3	2.2	2.4	2.5	2.6	2.6	2.6	2.7	2.8	2.9	2.8	2.7	2.5	2.6	2.5	2.5	2.4	2.5	2.6	2.4	2.4	2.5	2.4	2.4	2.4	2.4	2.3	2.2	2.3	2.2	2.2	2.1	2.2
2.3	2.6	2.4	2.3	2.3	2.7	2.8	2.6	2.6	2.6	2.7	2.7	2.7	2.8	3.0	2.9	2.8	2.8	2.6	2.4	2.4	2.5	2.4	2.6	2.5	2.4	2.6	2.6	2.6	2.4	2.3	2.2	2.4	2.4	2.3	2.2
3.0	2.6	2.5	2.3	2.1	2.3	2.8	2.7	2.9	3.1	3.5	3.3	3.3	2.9	2.8	3.1	2.9	2.6	2.8	3.0	2.9	2.7	2.8	2.9	3.0	2.7	2.7	2.8	3.0	2.9	3.0	2.7	2.6	2.8	2.7	2.8
3.6	3.1	2.7	2.8	2.8	2.7	3.0	2.9	3.2	3.5	3.3	3.3	2.9	2.8	2.8	3.0	2.8	2.9	3.0	3.4	3.2	3.3	3.0	2.9	3.2	3.3	3.4	3.5	3.4	3.4	3.4	3.5	3.0	4.2	4.4	4.1
3.6	3.5	3.6	3.3	3.2	3.6	3.7	3.2	3.1	2.9	2.8	3.2	2.7	3.1	3.0	2.8	3.0	2.8	3.1	3.3	3.3	3.5	3.2	3.1	2.9	2.9	3.3	3.8	3.3	3.3	3.4	2.9	2.8	3.1	3.9	3.4
4.1	3.9	4.2	3.6	3.3	3.4	3.2	3.0	3.3	3.3	3.3	3.2	3.1	3.0	2.6	2.5	3.1	3.8	3.3	3.1	2.6	2.8	3.1	2.4	2.5	3.3	4.5	5.3	4.7	3.3	3.4	3.6	3.7	3.5	3.2	3.7
4.4	4.5	3.9	4.1	5.1	5.0	4.2	3.4	4.1	4.6	5.0	4.6	4.0	4.3	4.3	4.8	5.1	5.8	6.1	5.7	5.3	4.2	4.2	2.6	2.7	3.7	5.4	5.7	5.5	5.5	5.3	5.8	6.2	6.1	5.3	4.4
4.0	3.7	4.0	4.5	4.3	3.4	3.6	3.7	3.3	2.9	4.7	5.4	5.7	6.2	5.1	3.5	3.7	3.6	5.0	5.6	5.2	4.3	3.9	3.4	3.7	4.1	5.2	5.2	6.0	6.1	5.8	6.2	6.2	6.0	4.7	3.6
4.8	5.0	5.6	4.4	3.7	3.1	2.6	2.8	3.1	3.2	4.1	5.0	5.9	4.7	4.4	3.4	2.5	2.4	2.6	4.3	3.6	3.0	4.1	3.6	3.8	3.0	3.5	4.4	4.4	4.9	5.0	6.4	6.7	5.6	3.4	3.9
4.3	4.2	4.6	5.0	4.2	3.9	3.0	2.8	2.7	2.6	2.6	3.6	4.7	3.5	4.4	4.2	3.0	2.6	2.3	3.1	3.3	2.9	3.6	3.9	2.7	2.6	2.8	2.6	2.5	3.0	2.7	2.8	3.4	3.8	4.1	3.5
4.4	3.8	3.7	3.5	3.6	3.8	3.7	3.9	3.7	3.0	3.0	3.7	3.6	3.5	3.6	3.7	3.5	3.1	2.9	3.2	3.3	3.4	3.7	3.8	3.3	3.1	2.6	2.4	2.5	2.5	2.7	2.7	2.8	2.7	3.2	4.0
2.9	3.4	3.0	2.9	2.9	2.9	3.0	2.9	3.1	3.2	3.1	3.4	3.2	3.2	3.6	3.2	3.4	3.2	2.9	3.2	3.2	2.9	3.2	3.3	3.0	3.3	3.1	2.7	2.8	2.6	2.5	2.7	2.8	2.8	2.8	2.8
2.8	2.7	2.6	2.8	2.9	2.7	2.7	2.8	2.8	2.8	2.9	3.1	3.1	2.9	3.0	2.9	3.0	3.4	3.4	3.1	2.8	2.8	3.0	2.8	2.8	2.7	2.7	2.7	2.7	2.6	2.7	2.8	2.8	2.7	2.6	2.7
2.9	2.9	2.9	2.7	2.6	2.7	2.9	2.7	2.7	2.9	3.0	3.1	3.4	3.3	3.0	2.8	2.9	2.9	3.0	3.0	2.7	2.4	2.4	2.5	2.7	2.8	2.7	2.9	2.7	2.6	2.6	2.8	2.9	2.9	2.9	2.8
2.9	2.9	2.8	2.9	2.8	2.8	2.8	2.7	2.7	2.7	2.9	3.1	3.0	2.9	2.7	2.8	2.9	2.9	2.8	2.9	3.1	3.1	3.0	2.9	2.9	2.9	2.8	2.8	2.5	2.5	2.6	2.7	2.8	3.0	2.9	2.8
3.1	3.3	3.1	3.1	3.1	2.9	2.9	2.9	2.9	2.8	3.0	2.8	2.7	2.9	2.8	3.0	3.0	3.1	3.2	3.1	2.8	2.7	2.0	2.1	2.2	2.3	2.6	2.5	2.6	2.5	2.5	2.6	2.5	2.9	3.0	2.9

Figure 64. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations



.2	.2	.0	-.1	.0	.1	.0	-.1	-.1	-.1	.0	-.1	-.4	-.7	-.4	.0	.0	.0	.1	.2	.2	.3	.2	.1	.2	.2	.2	.1	.2	.2	.2	.2	.2	.2	.2	.2
.3	.3	.3	.2	.3	.2	-.1	-.2	-.2	-.2	.3	.1	-1.2	-3.5	-3.6	-.4	.1	.4	.4	.3	.3	.4	.4	.3	.2	.2	.1	-.1	-.1	.1	.1	.1	.1	.2	.3	.3
.4	.2	-.1	-.2	-.3	-.2	-.3	-.3	-.2	.1	.1	.2	.3	-.9	-.1	.3	.3	.4	.3	.2	.2	.2	.3	.2	.1	-.1	.0	.0	-.1	-.1	-.2	-.6	-.6	-.1	.1	.2
.5	.4	.2	.4	.2	.2	.2	.1	.0	.2	.1	.1	.3	.4	.4	.4	.4	.2	.2	.2	.3	.2	.3	.2	.3	.3	.3	.4	.4	.1	.0	.0	.2	.2	.3	.4
.3	.4	.4	.4	.3	.2	.2	.5	.2	.1	.2	.2	.3	.3	.3	.3	.3	.4	.3	.1	.3	.3	.3	.4	.5	.2	.6	.7	.7	.8	.4	.2	.1	.3	.4	.4
.2	.2	.2	.3	.3	.2	.6	.7	.1	.1	.2	.2	.3	.3	.3	.3	.3	.5	.4	.3	.2	.3	.2	.7	.5	-.4	-1.0	-.7	.5	.3	.2	.1	.2	.2	.3	.2
.2	.2	.2	.3	.2	.2	.2	.8	.2	.1	.1	.1	.2	.2	.2	.3	.5	.8	.6	.4	.3	.4	.6	.3	.4	.6	.1	-.5	-.1	-.1	.0	.1	.2	.2	.2	.2
.1	.1	.2	.2	.2	.2	.1	.2	.2	.1	.1	.2	.2	.2	.2	.2	.4	.4	.4	.3	.6	.8	.4	.1	.1	.3	.1	-.2	-.3	.1	.0	.1	.1	.1	.1	.1
-.1	-.1	.0	.0	.0	.0	.1	.1	.1	.0	-.5	-.2	-.2	.0	.0	.1	.0	-.1	-.1	-.3	-.3	.1	.5	.1	.1	.0	-.2	-.3	-.3	-.4	-.2	-.2	-.3	-.3	-.2	-.1
-.1	.0	.0	.0	.0	.1	.1	.1	.2	.1	-.7	-.9	-.8	-.5	-.1	.1	.2	.2	-.1	-.5	-.7	-.4	.0	.0	.0	.0	-.1	-.2	-.4	-.4	-.3	-.6	-.7	-.4	-.1	.0
-.1	-.1	-.1	.0	.1	.1	.2	.2	.2	.2	.1	.0	-.3	-.1	.1	.2	.2	.2	.2	-.1	-.2	.0	.0	.0	.1	.1	.1	.1	.1	.1	.1	-.1	-.3	-.1	.0	-.1
.0	.1	.1	.0	.0	.1	.2	.2	.2	.2	.2	.6	.1	.1	.0	.0	.2	.3	.3	.4	.6	.3	.1	.0	.2	.2	.2	.3	.2	.4	.5	.7	.5	.1	.0	.1
.3	.2	.2	.2	.2	.2	.1	.2	.2	.3	.3	.6	.3	.2	.2	.1	.2	.3	.3	.4	.4	.3	.3	.2	.2	.2	.3	.3	.3	.4	.4	.4	.6	.3	.2	.2
.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.4	.3	.3
.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.3	.4	.4	.3	.3	.3	.4	.4	.4	.4	.4	.3	.3	.3	.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3
.3	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.2	.3	.4	.4	.4	.4	.4	.4	.4	.3	.1	.0	.2	.3	.0	-.1	-.1	.1	.2	.2	.2	.3	.3	.3
.3	.4	.3	.2	.2	.0	.1	.0	.0	.5	.4	.3	.1	.2	.2	.1	-.3	-1.5	-2.4	-2.1	-1.6	-1.8	-2.2	-2.0	-1.6	-2.3	-2.9	-2.4	-2.6	-2.7	-2.6	-1.8	-1.5	-1.1	.2	.2
-.6	-.5	-.6	-.3	-.1	-.3	-.4	-.6	-.3	.2	.0	-.2	-.2	-.4	-.8	-1.1	-1.5	-2.0	-2.5	-2.9	-3.0	-3.2	-3.1	-3.2	-3.6	-4.3	-5.1	-4.9	-4.5	-3.9	-3.6	-3.2	-2.5	-.9	-.5	-.7

Figure 65. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-5 (700 hPa)
NOAA18, using all observations

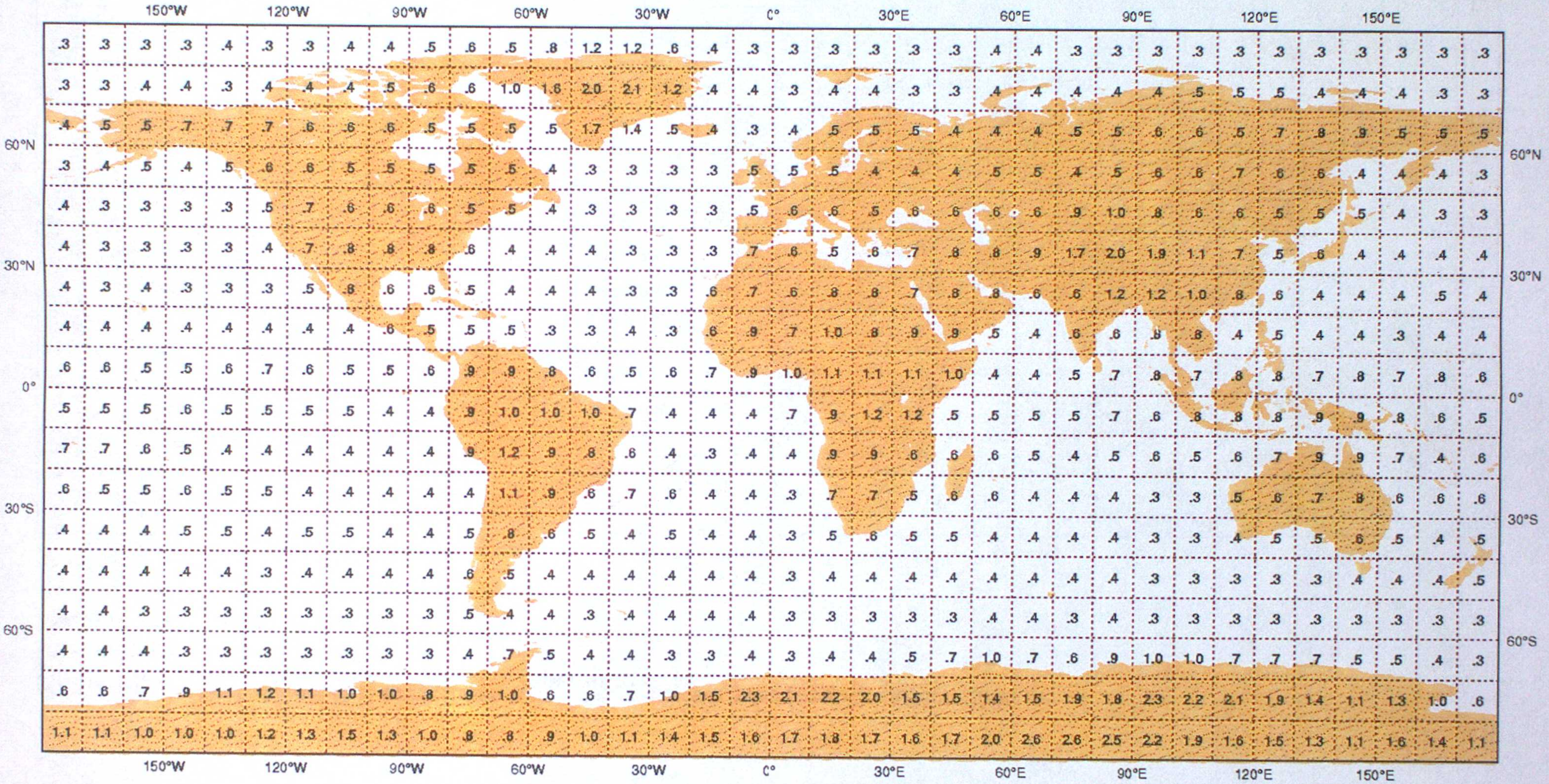
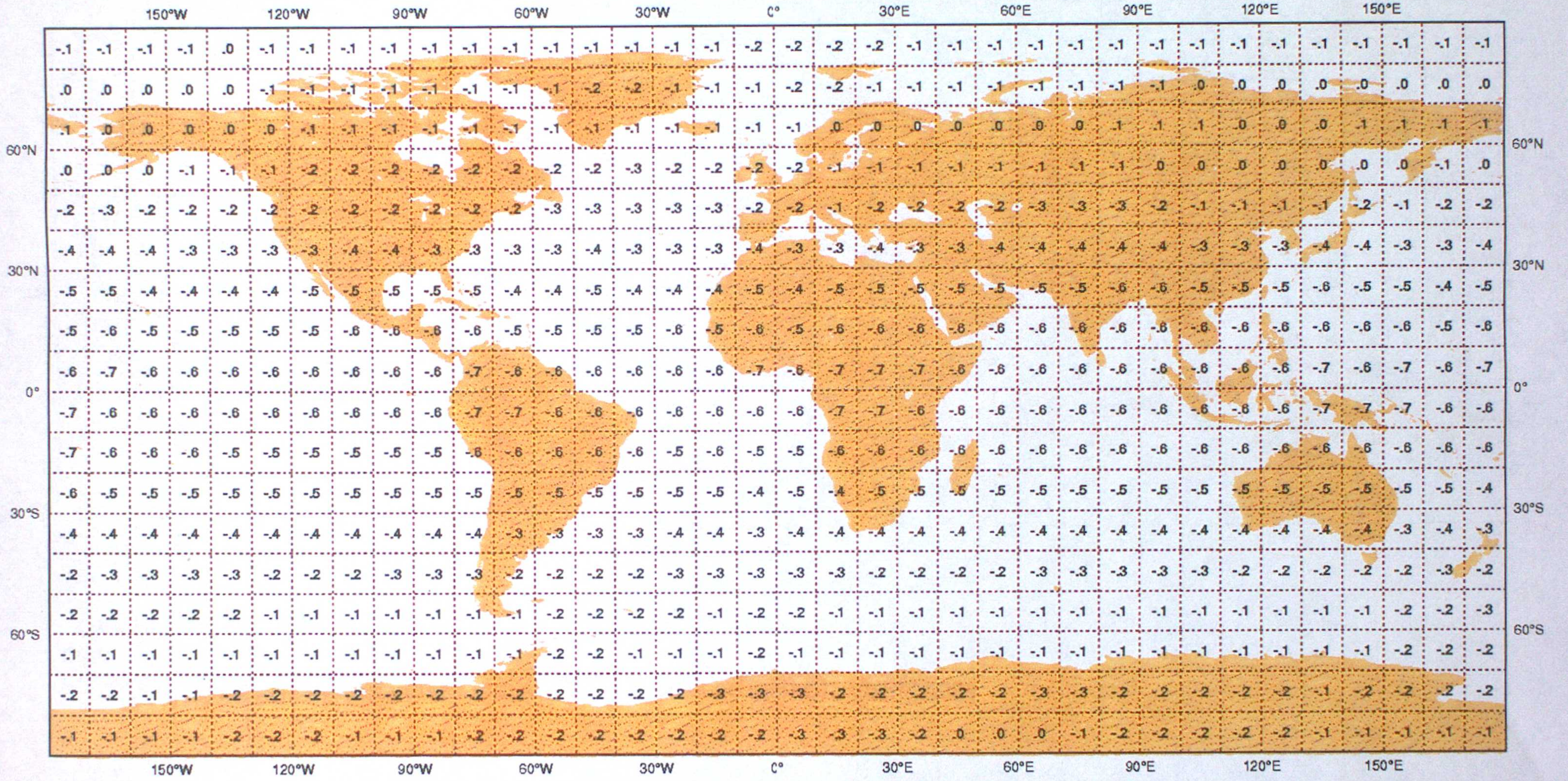

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S
.3 .3 .3 .3 .4 .3 .3 .4 .4 .5 .6 .5 .8 1.2 1.2 .6 .4 .3 .3 .3 .3 .3 .3 .4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3 .3
.3 .3 .4 .4 .3 .4 .4 .4 .5 .6 .6 1.0 1.6 2.0 2.1 1.2 .4 .4 .3 .4 .4 .3 .3 .4 .4 .4 .4 .4 .5 .5 .5 .4 .4 .4 .3 .3
.4 .5 .5 .7 .7 .7 .6 .6 .6 .5 .5 .5 .5 1.7 1.4 .5 .4 .3 .4 .5 .5 .5 .4 .4 .4 .5 .5 .6 .6 .5 .7 .8 .9 .5 .5 .5
.3 .4 .5 .4 .5 .6 .6 .5 .5 .5 .5 .5 .4 .3 .3 .3 .3 .5 .5 .5 .4 .4 .4 .5 .5 .4 .5 .6 .6 .7 .6 .6 .4 .4 .4 .3
.4 .3 .3 .3 .3 .5 .7 .6 .6 .6 .5 .5 .4 .3 .3 .3 .3 .5 .6 .6 .5 .6 .6 .6 .6 .9 1.0 .8 .6 .6 .5 .5 .5 .4 .3 .3
.4 .3 .3 .3 .3 .4 .7 .8 .8 .8 .6 .4 .4 .4 .3 .3 .3 .7 .6 .5 .6 .7 .8 .8 .9 1.7 2.0 1.9 1.1 .7 .5 .6 .4 .4 .4 .4
.4 .3 .4 .3 .3 .3 .5 .8 .6 .6 .5 .4 .4 .4 .3 .3 .6 .7 .6 .8 .8 .7 .8 .8 .6 .6 1.2 1.2 1.0 .8 .6 .4 .4 .4 .5 .4
.4 .4 .4 .4 .4 .4 .4 .4 .6 .5 .5 .5 .3 .3 .4 .3 .6 .9 .7 1.0 .8 .9 .9 .5 .4 .6 .6 .8 .8 .4 .5 .4 .4 .3 .4 .4
.6 .6 .5 .5 .6 .7 .6 .5 .5 .6 .9 .9 .8 .6 .5 .6 .7 .9 1.0 1.1 1.1 1.1 1.0 .4 .4 .5 .7 .8 .7 .8 .8 .7 .8 .7 .8 .6
.5 .5 .5 .6 .5 .5 .5 .5 .4 .4 .9 1.0 1.0 1.0 .7 .4 .4 .4 .7 .9 1.2 1.2 .5 .5 .5 .5 .7 .6 .8 .8 .8 .9 .9 .8 .6 .5
.7 .7 .6 .5 .4 .4 .4 .4 .4 .4 .9 1.2 .9 .8 .6 .4 .3 .4 .4 .9 .9 .6 .6 .6 .5 .4 .5 .6 .5 .6 .7 .9 .9 .7 .4 .6
.6 .5 .5 .6 .5 .5 .4 .4 .4 .4 .4 1.1 .9 .6 .7 .6 .4 .4 .3 .7 .7 .5 .6 .6 .4 .4 .4 .3 .3 .5 .6 .7 .8 .6 .6 .6
.4 .4 .4 .5 .5 .4 .5 .5 .4 .4 .5 .8 .6 .5 .4 .5 .4 .4 .3 .5 .6 .5 .5 .4 .4 .4 .4 .3 .3 .4 .5 .5 .6 .5 .4 .5
.4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .6 .5 .4 .4 .4 .4 .4 .4 .3 .4 .4 .4 .4 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .4 .4 .5
.4 .4 .3 .3 .3 .3 .3 .3 .3 .3 .5 .4 .4 .3 .4 .4 .4 .4 .3 .3 .3 .3 .3 .4 .4 .3 .4 .3 .3 .3 .3 .3 .3 .3 .3 .3
.4 .4 .4 .3 .3 .3 .3 .3 .3 .3 .4 .7 .5 .4 .4 .3 .3 .4 .3 .4 .4 .5 .7 1.0 .7 .6 .9 1.0 1.0 .7 .7 .7 .5 .5 .4 .3
.6 .6 .7 .9 1.1 1.2 1.1 1.0 1.0 .8 .9 1.0 .6 .6 .7 1.0 1.5 2.3 2.1 2.2 2.0 1.5 1.5 1.4 1.5 1.9 1.8 2.3 2.2 2.1 1.9 1.4 1.1 1.3 1.0 .6
1.1 1.1 1.0 1.0 1.0 1.2 1.3 1.5 1.3 1.0 .8 .8 .9 1.0 1.1 1.4 1.5 1.6 1.7 1.8 1.7 1.6 1.7 2.0 2.6 2.6 2.5 2.2 1.9 1.6 1.5 1.3 1.1 1.6 1.4 1.1

Figure 66. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations



-.1	-.1	-.1	-.1	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1
.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.0
.1	.0	.0	.0	.0	.0	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	.1	.1	.1	.0	.0	.0	.1	.1	.1	.1
.0	.0	.0	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	.0	.0	.0	.0	.0	.0	.0	-.1	.0
-.2	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.1	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.1	-.1	-.1	-.1	-.2	-.1	-.2	-.2
-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.3	-.3	-.3	-.4	-.3	-.3	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.3	-.3	-.4
-.5	-.5	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.5	-.4	-.4	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.5	-.5	-.5	-.6	-.5	-.5	-.4	-.5
-.5	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.6	-.5	-.6	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.6
-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.7	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.7	-.6	-.7
-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.7	-.7	-.6	-.6
-.7	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.6	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6
-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.5	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4
-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.4	-.3
-.2	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.2
-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.3
-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.1	-.1	-.1	-.2	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.1	-.2	-.2	-.2
-.2	-.2	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.1	-.2	-.2	-.2	-.2
-.1	-.1	-.1	-.1	-.2	-.2	-.2	-.1	-.1	-.1	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.3	-.3	-.3	-.2	.0	.0	.0	-.1	-.2	-.2	-.2	-.2	-.2	-.1	-.1	-.1	-.1	-.1

Figure 67. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-7 (300 hPa)
NOAA18, using all observations

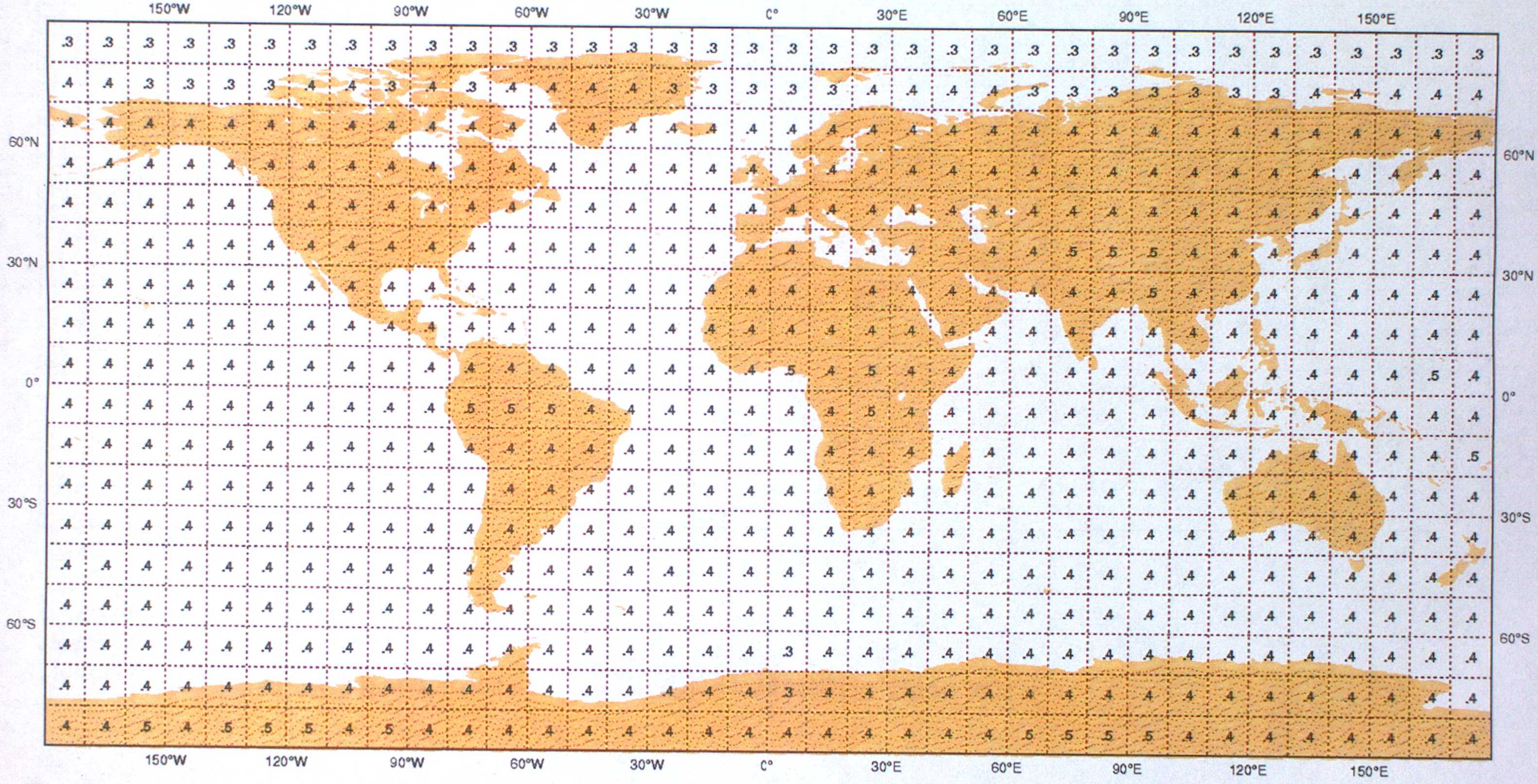
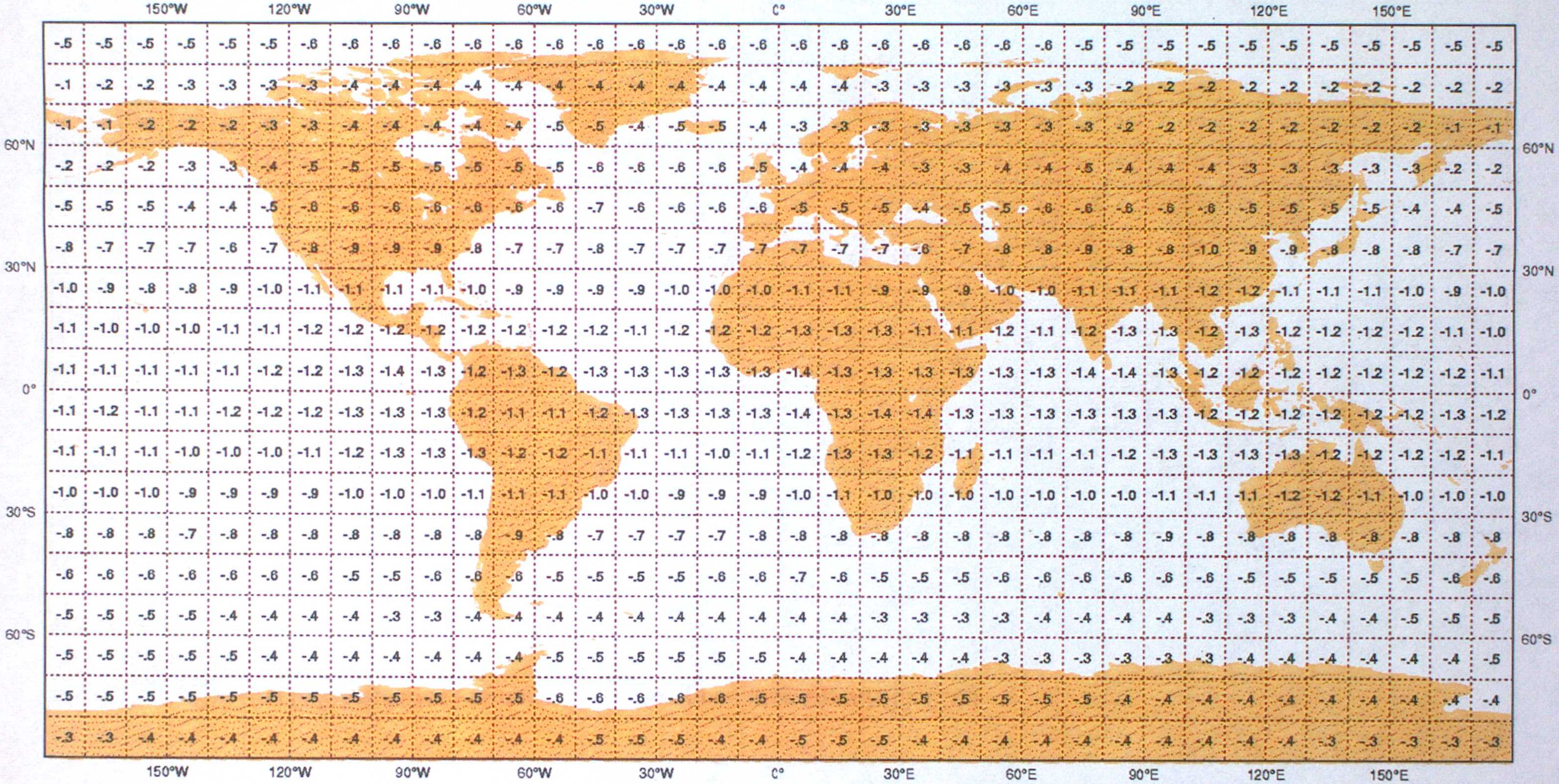
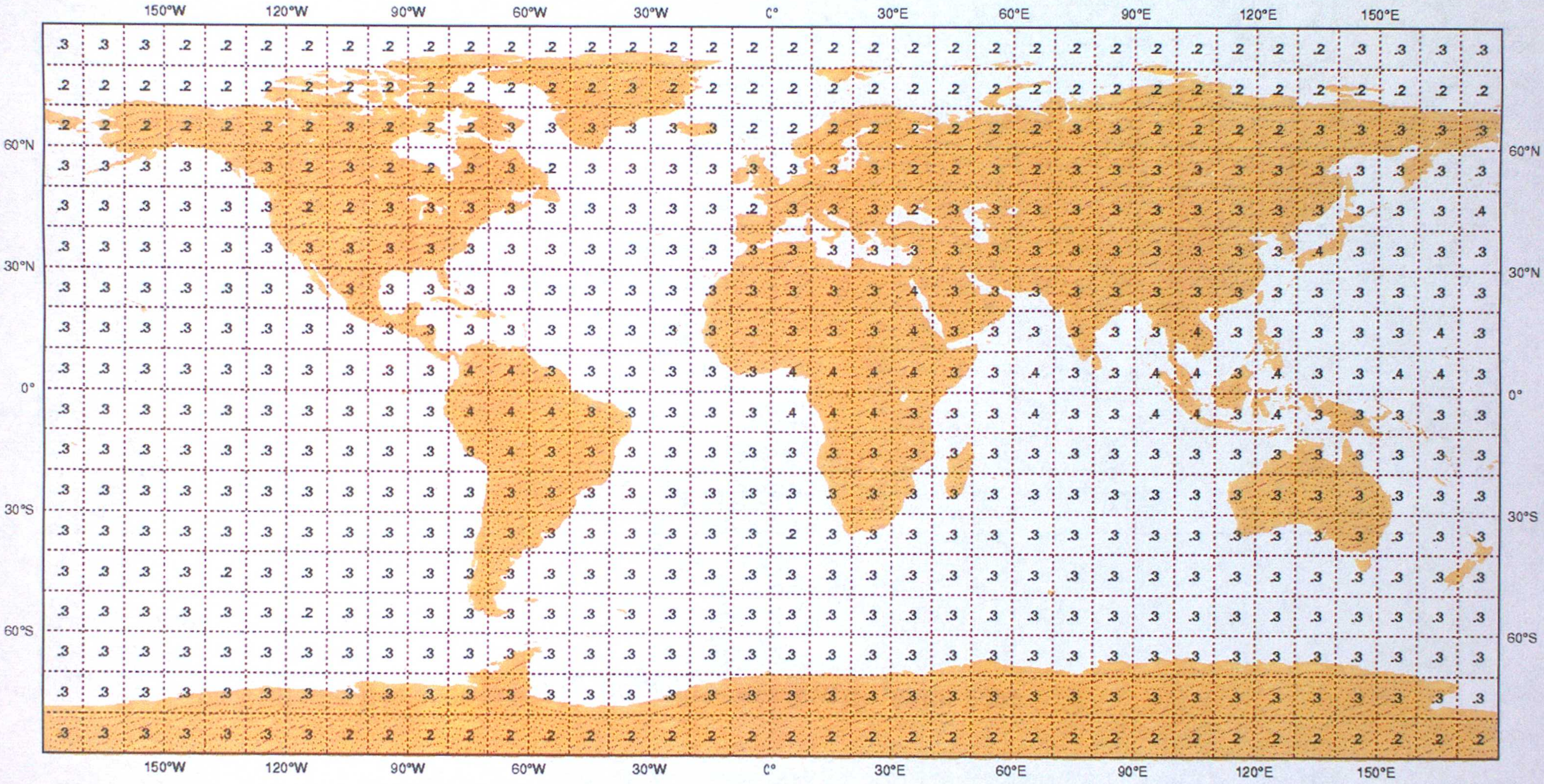

150°W
120°W
90°W
60°W
30°W
0°
30°E
60°E
90°E
120°E
150°E
60°N
30°N
0°
30°S
60°S

Figure 68. ATOVS MEAN O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations



-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5
-.1	-.2	-.2	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2
-.1	-.1	-.2	-.2	-.2	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.4	-.5	-.5	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.3	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.2	-.1	-.1
-.2	-.2	-.2	-.3	-.3	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.5	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.5	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.2	-.2
-.5	-.5	-.5	-.4	-.4	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.7	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.4	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.4	-.4	-.5
-.8	-.7	-.7	-.7	-.6	-.7	-.8	-.9	-.9	-.9	-.8	-.7	-.7	-.8	-.7	-.7	-.7	-.7	-.7	-.7	-.7	-.6	-.7	-.8	-.8	-.9	-.8	-.8	-1.0	-.9	-.9	-.8	-.8	-.8	-.7	-.7
-1.0	-.9	-.8	-.8	-.9	-1.0	-1.1	-1.1	-1.1	-1.1	-1.0	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.0	-1.1	-1.1	-.9	-.9	-.9	-1.0	-1.0	-1.1	-1.1	-1.1	-1.2	-1.2	-1.1	-1.1	-1.1	-1.0	-.9	-1.0
-1.1	-1.0	-1.0	-1.0	-1.1	-1.1	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1	-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.1	-1.1	-1.2	-1.1	-1.2	-1.3	-1.3	-1.2	-1.3	-1.2	-1.2	-1.2	-1.2	-1.1	-1.0
-1.1	-1.1	-1.1	-1.1	-1.1	-1.2	-1.2	-1.3	-1.4	-1.3	-1.2	-1.3	-1.2	-1.3	-1.3	-1.3	-1.3	-1.3	-1.4	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.4	-1.4	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.1
-1.1	-1.2	-1.1	-1.1	-1.2	-1.2	-1.2	-1.3	-1.3	-1.3	-1.2	-1.1	-1.1	-1.2	-1.3	-1.3	-1.3	-1.3	-1.4	-1.3	-1.4	-1.4	-1.3	-1.3	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.2	-1.2	-1.3	-1.2
-1.1	-1.1	-1.1	-1.0	-1.0	-1.0	-1.1	-1.2	-1.3	-1.3	-1.3	-1.2	-1.2	-1.1	-1.1	-1.1	-1.0	-1.1	-1.2	-1.3	-1.3	-1.2	-1.1	-1.1	-1.1	-1.1	-1.2	-1.3	-1.3	-1.3	-1.3	-1.2	-1.2	-1.2	-1.2	-1.1
-1.0	-1.0	-1.0	-.9	-.9	-.9	-.9	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.0	-1.0	-.9	-.9	-.9	-1.0	-1.1	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.1	-1.1	-1.1	-1.2	-1.2	-1.1	-1.0	-1.0	-1.0
-.8	-.8	-.8	-.7	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.9	-.8	-.7	-.7	-.7	-.7	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.9	-.8	-.8	-.8	-.8	-.8	-.8	-.8	-.8
-.6	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.6	-.6	-.7	-.6	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.6	-.6
-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.4	-.4	-.5	-.5	-.5
-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.5
-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.6	-.6	-.6	-.6	-.6	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4
-.3	-.3	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.5	-.5	-.5	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.4	-.3	-.3	-.3	-.3	-.3

Figure 69. ATOVS SD O-B brightness temperature differences (deg C). APRIL 2006
Channel: AMSUA-9 (100 hPa)
NOAA18, using all observations



.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.3	.3
.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2
.2	.2	.2	.2	.2	.2	.2	.3	.2	.2	.2	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.3	.3	.2	.2	.2	.2	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.2	.3	.2	.2	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.2	.2	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.2	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.4	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.4	.4	.3	.3	.4	.3	.3	.4	.4	.3	.4	.3	.3	.4	.4	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.3	.3	.4	.4	.4	.3	.3	.3	.4	.3	.3	.4	.4	.3	.4	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.4	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.2	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3	.3
.3	.3	.3	.3	.3	.3	.3	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2	.2

TABLE 8

MONTHLY MONITORING OF MARINE SURFACE OBSERVATIONS (COSNA)
DATA TYPE:- DRIFTER
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from each unique identifier for drifting buoy.
Area monitored		:10°N - 80°N, 85°W - 0°W
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:All hours combined.
Elements monitored		:Mean sea-level pressure (hPa) :Wind speed (m s^{-1}) :Wind direction (degrees)
Parameters monitored	:NOBS	:Number of observations received excluding duplicates.
	:NGE	:Number of observations with gross errors.
	:PGE	:Percentage of observations with gross errors.
	:SD	:SD of difference of observations from background values excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values excluding those with gross errors. **N.B. A positive bias indicates the wind observation is veered to the background**
	:RMS	:Root Mean Square difference of observations from background values excluding those with gross errors
GROSS ERROR LIMITS	:15 hPa (pressure) :25 m s^{-1} (Vector Wind)	

N.B. Observations of wind direction are only included in the wind direction statistics if the observed OR background wind speed > 5 m s^{-1}

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
13534	27.7	-45.1	P	711	1	1	0.4	-0.3	0.5
41502	13.3	-66.8	P	295	1	45	6.0	4.2	7.3
41525	27.5	-68.9	P	768	0	11	0.4	-0.4	0.6
41535	14.1	-56.6	P	797	0	12	0.4	-0.3	0.5
41536	13.7	-61.0	P	528	0	57	1.0	0.7	1.2
41537	16.7	-66.3	P	349	100	100			
41543	27.8	-54.2	P	20	0	0	0.7	-1.3	1.5
41544	26.0	-76.9	P	466	0	45	0.4	0.0	0.4
41545	25.3	-57.8	P	778	0	11	0.4	-0.3	0.5
41625	26.0	-68.0	P	711	0	9	0.5	0.4	0.6
41630	29.0	-73.9	P	725	0	9	0.4	-0.1	0.4
41643	28.9	-76.4	P	726	0	11	0.5	0.0	0.5
41645	31.2	-68.8	P	1065	0	38	0.7	0.7	1.0
41646	27.8	-76.0	P	700	0	9	0.5	0.2	0.5
41647	14.8	-48.0	P	195	8	21	0.3	0.2	0.4
41648	14.4	-45.2	P	347	44	51	1.4	0.4	1.4
42570	18.0	-80.1	P	303	5	43	2.8	4.2	5.1
42571	20.3	-82.8	P	797	0	12	0.4	-0.7	0.8
43513	10.9	-82.2	P	772	0	10	0.5	0.0	0.5
44607	34.5	-33.2	P	712	0	1	0.3	0.1	0.3
44609	46.9	-11.4	P	615	0	0	0.4	0.1	0.4
44611	60.7	-10.7	P	689	0	0	0.5	-0.3	0.6
44613	44.5	-40.8	P	710	0	0	0.5	0.6	0.7
44614	46.9	-39.4	P	703	0	0	0.4	0.3	0.5
44615	44.5	-24.7	P	706	0	0	0.4	-0.3	0.5
44617	44.8	-44.7	P	702	0	0	0.4	0.9	1.0
44620	44.9	-51.4	P	706	0	0	0.6	0.7	0.9
44635	49.0	-32.1	P	177	0	10	1.0	0.7	1.2
44637	40.8	-63.2	P	295	0	11	0.7	0.2	0.8
44722	50.6	-15.1	P	662	0	0	0.4	-0.1	0.4
44723	62.1	-30.3	P	714	0	1	0.6	-0.2	0.6
44725	55.9	-38.6	P	704	0	0	0.4	0.5	0.7
44728	53.6	-19.0	P	681	0	0	0.4	0.1	0.4
44729	43.8	-61.3	P	711	0	0	0.5	-0.5	0.7
44730	61.5	-32.2	P	701	0	1	0.6	0.0	0.6
44742	54.7	-46.6	P	710	0	0	0.5	-0.2	0.5
44745	33.8	-30.7	P	707	0	2	0.3	0.3	0.4
44746	39.6	-33.9	P	714	0	1	0.4	0.1	0.4
44747	41.0	-29.7	P	712	0	1	0.4	0.0	0.4
44760	51.9	-48.1	P	698	0	0	0.5	0.3	0.6
44761	50.5	-32.8	P	687	0	0	0.4	0.1	0.4
44762	55.3	-41.1	P	710	0	0	0.4	0.0	0.4
44763	53.3	-43.5	P	710	0	0	0.4	0.0	0.4
44764	45.6	-46.1	P	708	0	0	0.4	-0.1	0.4
44765	47.4	-39.2	P	704	0	0	0.7	0.1	0.7
44766	46.0	-36.2	P	706	0	0	0.5	0.0	0.5
44767	47.4	-33.4	P	701	0	0	0.4	0.3	0.5
44768	63.1	-31.3	P	709	0	0	0.7	-0.3	0.7
44769	46.0	-50.3	P	709	0	0	0.5	0.4	0.6
44770	56.5	-39.3	P	706	0	0	0.4	-0.2	0.5
44771	50.5	-48.0	P	708	0	0	0.4	0.0	0.4
44772	39.7	-41.7	P	707	0	0	0.4	0.4	0.6
44773	42.0	-45.6	P	708	0	0	0.5	0.2	0.6
44774	40.0	-62.2	P	709	0	0	0.6	0.4	0.7
44776	56.4	-37.2	P	705	0	0	0.5	0.0	0.5
44777	51.1	-39.7	P	709	0	0	0.4	-0.3	0.5
44778	48.9	-46.0	P	709	0	0	0.5	-0.2	0.5
44779	48.9	-37.7	P	705	0	0	0.4	-0.1	0.4
44780	51.3	-43.0	P	707	0	0	0.4	0.1	0.4
44845	49.6	-23.4	P	851	0	18	0.4	-0.1	0.4

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
44846	45.9	-12.8	P	813	0	15	0.4	0.1	0.4
44847	40.6	-20.2	P	818	0	15	0.4	0.1	0.4
44848	36.5	-32.5	P	913	0	24	0.3	0.2	0.4
44850	42.9	-20.0	P	832	0	16	0.4	0.1	0.4
44901	38.2	-35.2	P	822	0	15	0.5	0.1	0.5
44903	46.1	-30.2	P	833	0	16	0.4	0.1	0.4
47555	72.0	-73.1	P	1290	3	71	0.8	-0.1	0.8
62510	29.2	-23.2	P	714	0	0	0.3	0.1	0.4
62514	62.9	-41.6	P	682	0	1	1.0	0.7	1.2
62515	44.4	-2.2	P	709	0	1	0.4	-0.2	0.5
62556	23.3	-56.2	P	713	0	0	0.4	0.1	0.4
62557	23.9	-40.4	P	699	0	0	0.3	0.1	0.4
62560	43.5	-26.9	P	672	0	1	0.5	0.0	0.5
62562	51.2	-10.3	P	641	0	0	0.4	0.6	0.7
62564	38.7	-22.2	P	715	0	1	0.5	0.1	0.5
62567	36.8	-18.3	P	702	0	0	0.4	-0.3	0.4
62569	56.5	-29.7	P	695	0	0	0.4	0.6	0.7
62570	63.5	-19.6	P	3	0	0	0.3	-0.4	0.5
62571	46.2	-4.6	P	590	0	1	0.4	0.1	0.4
62572	37.8	-13.5	P	704	0	0	0.4	0.0	0.4
62573	39.5	-33.8	P	701	0	0	0.3	0.2	0.4
62574	50.9	-25.6	P	700	0	0	0.4	0.1	0.4
62575	48.6	-30.1	P	704	0	0	0.4	-0.1	0.4
62934	45.7	-5.9	P	809	0	15	0.4	0.1	0.4
62935	42.8	-18.2	P	825	0	15	0.4	0.1	0.4
64613	64.6	-35.1	P	147	0	1	1.2	-0.1	1.2
64614	65.0	-26.0	P	709	0	1	0.7	0.0	0.7
64615	63.8	-27.7	P	704	0	0	0.6	-0.2	0.7
64616	60.7	-34.8	P	706	0	0	0.5	-0.1	0.6
64617	60.2	-37.3	P	702	0	0	0.6	0.4	0.7

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	27.5	-68.9	SPEED	751	0	100	2.0	-0.6	2.1
41543	27.8	-54.2	SPEED	20	0	100	1.9	-0.9	2.1
41630	29.0	-73.9	SPEED	710	0	100	1.6	-1.5	2.2
41643	28.9	-76.4	SPEED	712	0	100	1.8	-0.7	1.9
41645	31.2	-68.8	SPEED	1046	0	100	2.3	0.1	2.3
41646	27.8	-76.0	SPEED	691	0	100	2.3	-1.3	2.6
62571	46.2	-4.6	SPEED	394	0	100	3.5	2.5	4.3

IDENTIFIER	LAT.	LONG.	ELEM	NOBS	PGE	%REJ	SD	BIAS	RMS
41525	27.5	-68.9	DIRN.	346	0	0	21.4	12.8	24.9
41543	27.8	-54.2	DIRN.	11	0	0	5.5	-13.7	14.7
41630	29.0	-73.9	DIRN.	404	0	0	20.5	9.7	22.7
41643	28.9	-76.4	DIRN.	463	0	0	18.0	15.0	23.5
41645	31.2	-68.8	DIRN.	725	0	0	17.4	19.9	26.4
41646	27.8	-76.0	DIRN.	357	1	0	21.3	11.1	24.0
62571	46.2	-4.6	DIRN.	202	0	0	20.4	1.8	20.5

TABLE 9

MONTHLY MONITORING OF AIRCRAFT OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures:

Period :One calendar month.

Data monitored :Statistics for each airline carrier.

Area monitored :40°N - 70°N, 60°W - 0°W.

Standard of comparison :Background field from UKMO global model.

Observation times :All hours combined.

Level(s) monitored :300.0 - 150.0 hPa

Elements monitored :TEMP in °C ; WIND in m s^{-1}

Parameters monitored :N REP. :Number of observations received excluding duplicates.

:PG :Percentage of observations with gross errors.

:PR :Percentage of observations rejected by quality control including rejections from the duplicate check.

:PC :Percentage of observations with calm winds.

:RMS :Root Mean Square difference of observations from background values excluding those with gross errors in Temperature & vector wind.

:BIAS :Mean difference of observations from background values excluding those with gross errors in Temperature & vector wind.

GROSS ERROR LIMITS :10.0 °C ; 60 m s^{-1} Vector Wind

SELECTION CRITERIA :N REP $\geq$ 20

NB: All American ACARS data are grouped together and statistics are shown at the bottom of the table as "US ACARS". All ADS reports are similarly grouped together.

		TEMPERATURE				WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
AAL	5043	0	5	1.4	0.1	4700	0	5	0	4.6	0.7
ACA	1618	0	4	1.4	-0.4	1294	0	3	0	4.3	0.6
ACF	57	11	53	3.4	0.2	38	0	68	0	20.8	3.3
AEA	474	1	3	1.7	0.4	378	0	3	0	6.6	0.9
AFL	287	1	7	2.0	0.1	113	1	21	0	8.8	0.2
AFR	4509	0	3	1.3	0.0	4314	0	2	0	5.0	0.5
AFZ	134	0	6	2.0	1.6	134	0	6	0	4.7	-0.4
AJM	148	1	12	1.6	-0.2	90	0	21	0	13.4	-0.1
AMT	46	0	9	1.8	-0.3	38	0	8	0	11.5	-0.3
AMX	340	1	5	1.8	0.0	258	0	4	0	8.7	0.4
ANZ	136	0	58	1.4	-0.1	133	0	58	0	4.7	1.0
AUA	374	0	3	1.4	0.0	356	0	4	0	5.0	0.6
AVA	53	4	4	1.6	-0.2	53	0	2	0	8.0	0.9
AZA	237	1	14	2.3	0.7	146	1	10	0	7.8	0.5
BAL	181	1	8	1.5	-0.2	180	0	8	0	7.0	0.3
BAW	570	1	26	1.8	-0.6	345	0	20	0	7.5	0.3
BBR	27	0	0	1.4	-0.9	27	0	0	0	5.3	2.4
BHP	35	3	6	1.4	-0.6	26	0	12	0	12.8	-0.7
BMA	366	0	1	1.4	-0.3	334	0	1	0	4.3	0.7
BPA	300	1	20	2.2	0.6	281	0	14	0	10.7	0.6
BWA	151	1	7	1.9	-0.2	103	1	3	0	7.1	0.8
CFC	22	0	5	2.2	-0.2	20	0	5	0	6.7	1.4
CFG	421	1	7	1.5	0.3	264	0	12	0	9.5	0.3
CFY	41	0	0	1.0	-0.7	41	0	0	0	3.6	1.0
CGF	397	0	2	1.1	-0.3	391	0	2	0	3.6	0.5
CGH	332	0	2	1.1	-0.2	328	0	2	0	3.3	0.3
CKS	87	1	11	2.0	0.0	29	0	24	0	14.6	0.6
CLX	173	1	6	1.7	-0.6	68	0	19	0	12.4	1.2
CNJ	133	0	65	1.3	0.6	133	0	65	0	5.0	1.7
COA	4697	0	8	1.3	0.0	4432	0	7	0	4.6	0.6
CRL	60	0	2	1.3	-0.3	56	0	2	0	4.3	0.2
CSD	107	0	7	2.4	0.8	56	0	7	0	6.8	0.0
CUB	157	0	11	1.4	-0.5	102	0	100	0	10.1	1.1
DAB	857	0	5	1.2	-0.2	822	0	5	0	3.6	0.7
DAI	818	0	6	1.1	0.2	778	0	6	0	3.7	0.7
DAL	1344	0	6	1.4	0.1	1202	0	5	0	4.9	0.7
DCS	32	0	16	3.0	-0.7	21	0	0	0	5.5	0.1
DLH	5227	0	4	1.3	0.0	5092	0	4	0	4.2	0.5
DRD	99	0	4	2.0	-0.7	99	0	5	0	6.8	0.6
EEZ	48	0	15	1.4	0.1	48	0	15	0	7.9	0.7
EIA	160	2	90	1.6	-0.2	132	0	100	0	24.0	9.4
ELY	340	0	3	1.2	0.2	290	0	4	0	5.1	0.6
FCA	89	0	16	1.9	0.3	54	0	9	0	10.4	0.2
FDX	276	2	37	1.3	0.2	151	0	35	0	5.4	0.4
FGE	31	0	0	1.0	-0.3	29	0	0	0	3.7	0.1
FGI	291	0	0	1.2	-0.3	280	0	0	0	3.9	0.6
FGL	97	0	2	1.0	0.1	94	0	2	0	3.4	0.6
FGN	33	0	3	0.9	0.1	31	0	0	0	3.4	0.5
FGS	464	0	2	1.1	0.2	455	0	2	0	3.6	0.7
FGZ	91	0	0	1.2	0.0	89	0	0	0	3.5	0.3
FIN	158	0	2	1.4	0.5	100	0	3	0	5.4	-0.2
FWI	169	1	13	1.5	-0.6	150	2	9	0	7.6	0.3
GCO	59	3	7	1.2	0.0	60	0	83	0	8.8	0.9
GEC	369	0	21	1.3	0.0	354	1	22	0	8.3	0.8
GOJ	60	0	7	2.1	0.1	55	0	2	0	4.2	1.0
GRL	72	0	0	1.2	0.1	55	0	4	0	6.3	0.1
GTI	99	0	6	1.9	0.4	74	0	7	0	9.7	0.3
GVA	69	0	10	1.1	0.1	66	0	11	0	3.8	0.4
GVB	72	0	3	1.0	0.1	68	0	3	0	3.8	0.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
GVE	20	30	60	5.4	3.4	20	0	5	0	5.3	2.6
GVF	105	0	5	1.1	-0.4	103	0	5	0	3.6	0.9
GVG	62	0	3	1.5	-0.9	61	0	3	0	3.6	1.2
GVH	73	0	4	1.3	-0.2	70	0	4	0	3.9	0.2
GVL	34	0	3	1.1	-0.1	32	0	3	0	3.7	0.7
GVM	20	0	5	1.3	-0.2	20	0	5	0	3.5	0.2
GVR	183	0	5	1.3	0.0	177	0	5	0	4.7	0.8
GVS	30	0	3	1.2	-0.2	30	0	3	0	3.8	0.3
GVT	32	0	3	1.2	-0.1	32	0	3	0	3.7	1.5
GVW	74	0	3	0.9	-0.3	71	0	3	0	3.5	0.6
GVX	81	0	2	1.2	0.0	80	0	3	0	4.0	-0.1
GWW	96	0	5	1.2	0.0	94	0	5	0	3.8	0.2
HBI	225	0	3	1.4	-0.5	217	0	3	0	4.2	0.7
HBJ	92	0	4	0.9	-0.2	85	0	4	0	3.1	0.9
IBE	1671	1	6	1.6	-0.1	1636	0	5	0	7.6	0.8
ICE	1004	0	2	1.5	0.2	507	0	1	0	5.5	0.8
ISR	51	0	14	2.7	-0.7	22	0	0	0	4.2	0.5
IWD	206	1	5	1.7	-0.4	203	0	4	0	6.0	1.1
KAC	107	0	1	1.3	0.4	104	0	1	0	3.6	0.7
KLM	892	0	4	1.6	-0.1	651	0	5	0	7.9	0.5
LCO	28	0	14	1.7	-0.3	23	0	0	0	7.9	0.9
LNR	385	0	52	1.2	-0.2	378	0	52	0	3.3	0.5
LOT	249	0	2	1.6	-0.7	141	0	3	0	5.9	0.8
LTU	616	0	6	1.7	0.0	440	0	5	0	7.3	1.0
LVG	195	2	9	2.0	0.1	171	0	6	0	7.5	0.9
MAS	111	0	2	1.6	0.7	106	0	1	0	4.1	0.8
MPD	147	1	2	1.1	0.0	123	0	3	0	5.8	0.9
MPH	125	0	6	1.8	-0.9	78	0	13	0	10.0	-1.4
MSR	141	0	1	1.1	0.6	136	0	1	0	4.7	0.8
MXJ	319	2	9	1.5	-0.1	183	0	6	0	5.6	0.4
MYT	126	1	16	2.1	0.0	69	0	16	0	10.1	0.8
NAO	57	0	5	1.8	0.0	49	0	10	0	11.9	0.4
NOS	158	1	7	1.7	0.2	98	0	8	0	8.4	0.0
NWA	2516	0	5	1.6	-0.1	2366	0	3	0	5.6	0.4
OAE	178	1	13	1.5	-0.3	62	0	6	0	8.3	0.0
OOM	84	2	5	1.8	-0.1	64	0	3	0	7.2	1.0
OYK	415	0	55	1.1	-0.1	400	0	55	0	3.3	0.6
PAC	116	0	7	1.8	0.5	83	0	4	0	8.1	0.4
PLM	119	1	3	1.7	0.6	103	0	4	0	6.7	0.4
RAM	272	1	4	1.6	0.0	191	0	8	0	8.7	0.1
RCH	247	1	100	4.0	-1.0	167	0	100	0	11.0	1.5
RRR	31	0	13	2.5	-0.3	28	0	7	0	6.4	0.6
RZO	177	1	3	1.5	-0.8	163	0	4	0	7.0	0.5
SAS	1008	0	66	1.4	-0.2	998	0	66	0	3.9	0.7
SER	456	0	57	1.2	0.1	441	0	56	0	3.6	0.7
SEU	240	1	16	1.9	-0.5	180	0	19	0	12.0	1.2
SIA	297	0	1	1.3	0.0	290	0	0	0	4.0	0.6
SLM	36	0	31	1.6	-0.2	36	0	36	0	11.9	0.9
SQC	272	0	2	1.3	-0.1	268	0	1	0	4.4	0.2
SWR	1580	0	3	1.4	-0.4	1520	0	3	0	4.4	0.7
TAP	291	1	4	1.9	-0.4	230	0	5	0	8.8	0.4
TCX	289	1	11	2.5	0.6	268	0	2	0	4.7	0.7
TFL	93	0	8	1.7	0.1	48	0	13	0	9.9	0.6
THT	89	0	0	1.2	-0.3	89	0	0	0	3.8	0.5
TSC	71	3	6	1.3	-0.2	39	0	3	0	3.9	0.7
TSO	34	44	44	2.1	-0.4	29	0	17	0	13.2	-0.5
TUB	52	0	4	1.4	0.1	21	0	5	0	7.3	-0.2
UAE	398	0	1	1.5	0.3	391	0	1	0	4.2	0.7
UAL	3565	0	5	1.3	-0.3	3419	0	5	0	4.3	0.8

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
UPS	872	0	51	1.4	-0.1	449	0	47	0	5.4	0.5
USA	1704	0	2	1.3	-0.1	1605	0	2	0	4.4	0.7
VIR	2664	0	4	1.4	-0.2	2557	0	3	0	4.5	0.4
VLE	31	0	3	2.0	-1.3	30	0	3	0	10.7	-0.5
WHT	47	0	4	2.0	-0.4	40	0	3	0	6.3	0.7
WOA	213	1	10	1.5	0.2	151	1	20	0	12.6	2.8
ZKN	116	0	2	1.1	-0.1	116	0	2	0	3.7	0.6
ZKS	59	0	3	1.4	-0.3	58	0	2	0	4.5	1.4
9VS	70	0	1	1.1	-0.1	69	0	1	0	4.2	0.6

	TEMPERATURE					WIND					
IDENT.	N.REP.	PG	PR	RMS	BIAS	N.REP.	PG	PR	PC	RMS	BIAS
EU	43208	0	21	1.2	0.1	43208	0	21	0	3.9	0.3
HZ	22	0	0	1.1	0.0	21	0	0	0	5.8	1.4
N	5197	0	14	1.3	-0.1	4906	0	14	0	3.8	0.5
S	24	0	0	1.1	0.0	24	0	0	0	3.9	0.7
US AMDAR	36374	0	33	1.4	0.3	36373	0	29	0	4.3	0.2

TABLE 10

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from selected radiosonde TEMPs.

Area monitored :0°N - 90°N, 100°W - 40°E

Standard of comparison :Background field from UKMO global model.

Position :Average latitude and longitude for period.

Observation times :00, 12 UTC.

Level monitored :100 hPa.

Element monitored :GEOPOTENTIAL HEIGHT in metres

Parameters monitored :NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:SD :SD of difference of observations from background values at level shown excluding those with gross errors.

:BIAS :Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
ASDE01	00	Z	100	2	0	7.0	33.7	33.0
ASDE01	12	Z	100	1	0	0.0	42.0	42.0
ASDE03	00	Z	100	6	0	6.2	37.0	36.5
ASDE03	12	Z	100	6	0	18.8	31.9	25.8
ASEU01	00	Z	100	3	0	5.4	15.0	14.0
ASEU01	12	Z	100	7	0	3.7	11.9	11.3
ASEU02	00	Z	100	1	0	0.0	24.0	24.0
ASEU02	12	Z	100	2	0	61.0	83.5	57.0
ASEU03	00	Z	100	4	0	3.8	31.5	31.3
ASEU03	12	Z	100	5	0	5.5	36.0	35.6
ASEU04	00	Z	100	6	0	5.3	40.5	40.2
ASEU04	12	Z	100	6	0	10.0	37.4	36.0
ASEU05	00	Z	100	3	0	7.9	16.9	15.0
ASEU05	12	Z	100	4	0	9.2	18.9	16.5
ASUK01	00	Z	100	3	0	7.8	29.4	28.3
ASUK01	12	Z	100	2	0	7.5	47.1	46.5
DBBH	00	Z	100	8	0	21.5	32.1	23.9
DBBH	12	Z	100	2	0	22.0	22.0	-1.0
EBUQ	12	Z	100	13	0	10.0	12.5	7.5
ELML7	00	Z	100	10	0	8.4	11.9	-8.4
ELML7	12	Z	100	11	0	9.3	14.5	-11.1
FQFL	00	Z	100	7	0	6.8	7.4	-3.0
FQFL	12	Z	100	8	0	10.1	10.4	2.3
FQFM	00	Z	100	9	0	14.4	18.0	-10.7
FQFM	12	Z	100	9	0	10.0	11.1	-4.9
KRPD	00	Z	100	1	0	0.0	14.0	14.0
KRPD	12	Z	100	2	0	3.0	19.2	19.0
LDWR	00	Z	100	25	0	8.5	8.9	-2.6
LDWR	12	Z	100	25	0	6.4	12.1	-10.2
OXGN2	00	Z	100	4	0	17.9	32.2	26.8
OXGN2	12	Z	100	6	0	15.6	19.9	12.3
OXVH2	00	Z	100	6	0	46.3	50.5	20.2
OXVH2	12	Z	100	7	0	17.9	17.9	-0.4
SKUN	00	Z	100	2	0	14.5	25.1	20.5
SKUN	12	Z	100	4	0	95.0	117.2	68.8
V2BD9	00	Z	100	6	0	7.0	13.5	11.5
V2BD9	12	Z	100	5	0	11.2	13.1	6.8
WPKD	00	Z	100	3	0	80.7	101.8	62.0
WPKD	12	Z	100	2	0	12.5	22.3	18.5
ZCBE7	12	Z	100	2	0	3.0	33.1	33.0
ZCBF3	00	Z	100	1	0	0.0	38.0	38.0
ZCBF3	12	Z	100	1	0	0.0	50.0	50.0
ZCBP6	00	Z	100	1	0	0.0	22.0	22.0
ZCBP6	12	Z	100	2	0	0.0	27.0	27.0
ZSAF	00	Z	100	1	0	0.0	72.0	-72.0
ZSAF	12	Z	100	2	0	53.5	92.5	-75.5
03953	00	Z	100	28	0	12.2	13.5	5.9
03953	12	Z	100	27	0	10.5	11.2	3.9
04018	00	Z	100	28	0	8.2	8.2	-0.2
04018	12	Z	100	28	0	12.7	13.8	-5.5
04220	00	Z	100	28	0	6.6	6.8	-1.7
04220	12	Z	100	28	0	13.6	13.6	-0.6
04270	00	Z	100	27	0	26.1	26.3	3.0
04270	12	Z	100	28	0	25.2	25.2	-1.9
04339	00	Z	100	29	0	7.1	7.3	-1.4
04339	12	Z	100	27	0	8.3	9.7	-5.1
04360	00	Z	100	28	0	13.1	15.7	8.5
04360	12	Z	100	28	0	8.8	10.0	4.8
08001	00	Z	100	25	0	9.3	22.8	20.8

08001	12	Z	100	25	0	12.8	28.2	25.1
08508	12	Z	100	26	0	13.9	29.0	25.4
08522	12	Z	100	19	0	8.7	9.4	3.6
08594	12	Z	100	24	0	11.5	15.2	-10.0
71600	00	Z	100	29	0	15.1	15.1	0.7
71600	12	Z	100	29	0	15.1	18.6	10.8
72201	00	Z	100	29	0	9.3	13.3	9.5
72201	12	Z	100	29	0	9.6	23.9	21.9
72402	00	Z	100	29	0	11.6	24.1	21.2
72402	12	Z	100	29	0	11.8	15.9	10.7
74494	00	Z	100	27	0	12.7	13.4	4.2
74494	12	Z	100	29	0	19.0	19.1	-1.6
78016	00	Z	100	28	0	12.2	25.0	21.9
78016	12	Z	100	28	0	9.8	27.9	26.1

TABLE 11

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures:

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:500 hPa.
Element monitored		:GEOPOTENTIAL HEIGHT in metres
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:SD	:SD of difference of observations from background values at level shown excluding those with gross errors.
	:BIAS	:Mean difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.1

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	SD	RMS	BIAS
ASDE01	00	Z	500	4	0	9.3	24.4	22.5
ASDE01	12	Z	500	2	0	4.5	33.8	33.5
ASDE03	00	Z	500	6	0	5.6	17.9	17.0
ASDE03	12	Z	500	6	0	15.1	17.8	9.3
ASEU01	00	Z	500	3	0	3.3	3.3	0.0
ASEU01	12	Z	500	7	0	7.2	7.5	-2.0
ASEU02	00	Z	500	2	0	3.5	9.2	8.5
ASEU02	12	Z	500	3	0	38.0	43.1	20.3
ASEU03	00	Z	500	4	0	3.6	5.6	4.3
ASEU03	12	Z	500	5	0	7.8	9.5	5.4
ASEU04	00	Z	500	8	0	17.7	30.0	24.3
ASEU04	12	Z	500	7	0	10.1	23.3	21.0
ASEU05	00	Z	500	3	0	2.6	2.9	1.3
ASEU05	12	Z	500	4	0	4.1	4.3	1.3
ASUK01	00	Z	500	3	0	9.1	18.1	15.7
ASUK01	12	Z	500	2	0	3.5	28.7	28.5
DBBH	00	Z	500	9	0	6.8	6.8	-0.2
DBBH	12	Z	500	2	0	1.0	2.2	-2.0
EBUQ	12	Z	500	19	0	3.4	3.4	-0.3
ELML7	00	Z	500	10	0	4.4	11.3	-10.4
ELML7	12	Z	500	11	0	5.1	12.1	-10.9
FQFL	00	Z	500	11	0	6.2	9.7	-7.5
FQFL	12	Z	500	14	0	6.1	7.7	-4.7
FQFM	00	Z	500	9	0	8.0	22.4	-20.9
FQFM	12	Z	500	11	0	6.0	18.9	-17.9
KRPD	00	Z	500	1	0	0.0	4.0	4.0
KRPD	12	Z	500	2	0	2.0	6.3	-6.0
LDWR	00	Z	500	26	0	6.0	6.3	-2.1
LDWR	12	Z	500	28	0	6.7	8.7	-5.5
OXGN2	00	Z	500	4	0	15.5	25.5	20.3
OXGN2	12	Z	500	6	0	14.6	15.2	4.0
OXVH2	00	Z	500	8	0	32.1	34.0	11.1
OXVH2	12	Z	500	10	0	8.9	9.1	1.8
SKUN	00	Z	500	2	0	11.0	22.0	19.0
SKUN	12	Z	500	4	0	28.3	38.6	26.3
V2BD9	00	Z	500	6	0	3.5	3.6	1.0
V2BD9	12	Z	500	5	0	7.3	8.3	4.0
V2XM	12	Z	500	1	0	0.0	36.0	36.0
WPKD	00	Z	500	3	0	36.6	40.1	16.3
WPKD	12	Z	500	2	0	6.0	6.0	0.0
ZCBE7	12	Z	500	5	0	4.1	8.3	7.2
ZCBF3	00	Z	500	1	0	0.0	31.0	31.0
ZCBF3	12	Z	500	1	1	0.0	27.0	27.0
ZCBP6	00	Z	500	1	0	0.0	28.0	28.0
ZCBP6	12	Z	500	2	0	2.5	22.6	22.5
ZSAF	00	Z	500	1	0	0.0	63.0	-63.0
ZSAF	12	Z	500	1	1	0.0	54.0	-54.0
03953	00	Z	500	29	0	8.1	8.2	1.5
03953	12	Z	500	27	0	5.3	5.5	-1.4
04018	00	Z	500	29	0	8.0	8.0	-0.6
04018	12	Z	500	28	0	6.6	7.5	-3.6
04220	00	Z	500	29	0	10.2	10.2	-0.3
04220	12	Z	500	28	0	11.2	11.2	0.2
04270	00	Z	500	29	0	15.3	15.3	1.7
04270	12	Z	500	29	0	16.7	16.9	2.4
04339	00	Z	500	29	0	8.3	9.2	-4.1
04339	12	Z	500	29	0	8.3	8.7	-2.7
04360	00	Z	500	28	0	10.1	10.1	-0.3
04360	12	Z	500	28	0	8.6	8.6	0.0
08001	00	Z	500	29	0	5.6	6.0	2.3

08001	12	Z	500	28	0	11.4	11.5	1.8
08508	12	Z	500	26	0	8.0	8.7	-3.5
08522	12	Z	500	27	0	7.0	10.7	-8.1
08594	12	Z	500	27	0	5.8	9.6	-7.7
71600	00	Z	500	29	0	9.1	10.1	-4.4
71600	12	Z	500	29	0	12.7	12.8	1.5
72201	00	Z	500	29	0	5.4	5.7	-2.0
72201	12	Z	500	29	0	4.7	6.8	-4.8
72402	00	Z	500	29	0	4.0	4.2	1.2
72402	12	Z	500	29	0	6.2	6.8	-2.9
74494	00	Z	500	29	0	10.3	10.6	-2.4
74494	12	Z	500	29	0	6.3	7.0	-3.0
78016	00	Z	500	28	0	5.8	6.3	2.5
78016	12	Z	500	28	0	7.5	8.6	4.2

TABLE 12

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period		:One calendar month.
Data monitored		:Reports from selected radiosonde TEMPs.
Area monitored		:0°N - 90°N, 100°W - 40°E
Standard of comparison		:Background field from UKMO global model.
Position		:Average latitude and longitude for period.
Observation times		:00, 12 UTC.
Level monitored		:100 hPa.
Element monitored		:VECTOR WIND in m s^{-1}
Parameters monitored	:NUM OBS	:Number of observations available at level shown during period.
	:NUM GROSS	:Number of gross errors at level shown during period.
	:UBIAS,VBIAS	:Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.
	:RMS	:Root Mean Square difference of observations from background values at level shown excluding those with gross errors.
GROSS ERROR LIMITS	:Defined in Appendix I.2	

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
ASDE01	00	V	100	2	0	0	3.1	0.6	0.1
ASDE01	12	V	100	1	0	0	2.5	2.3	-0.8
ASDE03	00	V	100	6	0	0	3.0	-0.6	-0.6
ASDE03	12	V	100	6	0	0	4.1	-1.6	-1.3
ASEU01	00	V	100	3	0	0	3.1	-0.1	2.0
ASEU01	12	V	100	7	0	0	3.1	0.4	0.0
ASEU02	00	V	100	1	0	0	2.2	0.6	-2.1
ASEU02	12	V	100	1	0	0	2.4	2.4	-0.3
ASEU03	00	V	100	4	0	0	2.6	0.7	1.6
ASEU03	12	V	100	4	0	0	4.1	-2.6	0.4
ASEU04	00	V	100	5	0	0	3.4	0.9	0.6
ASEU04	12	V	100	4	0	0	4.9	-2.2	2.4
ASEU05	00	V	100	3	0	0	3.9	3.2	-1.4
ASEU05	12	V	100	4	0	0	4.6	-0.9	1.3
ASUK01	00	V	100	3	0	0	4.2	0.4	-2.7
ASUK01	12	V	100	2	0	0	4.4	1.3	2.1
DBBH	00	V	100	7	0	0	4.1	-1.4	-0.6
DBBH	12	V	100	2	0	0	6.9	-3.7	4.7
EBUQ	12	V	100	12	0	0	5.5	-0.8	1.6
ELML7	00	V	100	10	0	0	5.1	-2.2	-1.1
ELML7	12	V	100	11	0	0	4.2	1.4	1.0
FQFL	00	V	100	7	0	0	3.0	1.6	0.6
FQFL	12	V	100	8	0	0	4.0	0.2	-0.1
FQFM	00	V	100	9	0	0	5.1	0.8	2.2
FQFM	12	V	100	10	0	0	4.2	0.4	1.9
KRPD	00	V	100	1	0	0	3.4	-0.3	-3.4
KRPD	12	V	100	2	0	0	2.9	2.3	-0.6
LDWR	00	V	100	25	0	0	3.0	-0.6	-0.1
LDWR	12	V	100	25	0	0	2.7	-0.5	0.6
OXGN2	00	V	100	4	0	0	2.2	0.5	1.3
OXGN2	12	V	100	5	0	0	2.9	1.0	1.0
OXVH2	00	V	100	4	0	25	11.5	5.3	-3.0
OXVH2	12	V	100	7	0	0	4.0	0.2	1.0
SKUN	00	V	100	2	0	0	1.8	1.3	0.8
SKUN	12	V	100	4	0	25	7.7	3.6	3.8
V2BD9	00	V	100	6	0	0	5.7	-1.1	-2.0
V2BD9	12	V	100	5	0	0	6.1	-3.9	-2.0
WPKD	00	V	100	3	0	0	3.4	1.5	2.1
WPKD	12	V	100	2	0	0	3.1	2.4	-0.6
ZCBF3	00	V	100	1	0	0	2.3	1.7	1.5
ZCBF3	12	V	100	1	0	0	5.5	-3.1	4.6
ZCBP6	00	V	100	1	0	0	3.2	-2.9	1.4
ZCBP6	12	V	100	2	0	0	2.5	-0.4	2.0
ZSAF	00	V	100	1	0	0	15.2	13.3	-7.2
ZSAF	12	V	100	2	0	50	18.0	12.8	-11.7
03953	00	V	100	28	0	0	3.0	0.0	0.0
03953	12	V	100	26	0	0	2.8	-0.1	0.7
04018	00	V	100	28	0	0	3.9	-0.6	-0.5
04018	12	V	100	28	0	0	3.5	-0.2	0.8
04220	00	V	100	28	0	0	2.4	0.0	0.5
04220	12	V	100	28	0	0	2.5	0.5	0.6
04270	00	V	100	27	0	7	6.9	-1.5	0.3
04270	12	V	100	27	0	0	4.5	-0.1	-0.4
04339	00	V	100	28	0	3	3.5	0.5	-0.2
04339	12	V	100	27	0	0	2.8	0.6	0.6
04360	00	V	100	28	0	0	4.0	0.3	0.2
04360	12	V	100	28	0	0	4.3	-0.7	-1.1
08001	00	V	100	24	0	0	3.7	0.2	-0.4
08001	12	V	100	19	0	0	4.8	-1.1	-1.4

08508	12	V	100	14	0	0	3.8	0.5	-0.8
08522	12	V	100	19	0	0	4.1	1.1	0.4
08594	12	V	100	24	0	100	3.6	-1.6	-1.3
71600	00	V	100	29	0	0	3.0	0.2	0.5
71600	12	V	100	28	0	0	3.3	0.5	1.1
72201	00	V	100	29	0	0	3.9	-0.6	-1.1
72201	12	V	100	29	0	0	3.0	-0.5	0.4
72402	00	V	100	28	0	0	4.2	0.1	0.3
72402	12	V	100	28	0	0	3.7	-0.1	0.1
74494	00	V	100	27	0	100	2.8	-0.5	1.6
74494	12	V	100	29	0	100	3.0	-0.4	1.3
78016	00	V	100	28	0	0	4.0	0.7	-1.1
78016	12	V	100	27	0	0	4.2	0.5	0.4

TABLE 13

MONTHLY MONITORING OF RADIOSONDE OBSERVATIONS (COSNA)
MONITORING CENTRE: EXETER
MONTH: Apr 2006

Monitoring procedures

Period :One calendar month.

Data monitored :Reports from selected radiosonde TEMPs.

Area monitored :0°N - 90°N, 100°W - 40°E

Standard of comparison :Background field from UKMO global model.

Position :Average latitude and longitude for period.

Observation times :00, 12 UTC.

Level monitored :500 hPa.

Element monitored :VECTOR WIND in m s^{-1}

Parameters monitored

:NUM OBS :Number of observations available at level shown during period.

:NUM GROSS :Number of gross errors at level shown during period.

:UBIAS,VBIAS: Mean difference of observations of U and V components from background values at level shown excluding those with gross errors.

:RMS :Root Mean Square difference of observations from background values at level shown excluding those with gross errors.

GROSS ERROR LIMITS :Defined in Appendix I.2

WMO IDENT	OBS TIME	ELM	LEV	NUM OBS	NUM GROSS	% REJ	RMS	UBIAS	VBIAS
ASDE01	00	V	500	3	0	0	1.9	0.4	1.6
ASDE01	12	V	500	2	0	0	3.1	0.9	2.3
ASDE03	00	V	500	6	0	0	2.7	-0.3	0.4
ASDE03	12	V	500	6	0	0	4.1	-1.1	-0.2
ASEU01	00	V	500	3	0	0	3.5	-1.2	-0.9
ASEU01	12	V	500	7	0	0	3.3	-1.4	0.4
ASEU02	00	V	500	2	0	0	1.3	0.3	-0.3
ASEU02	12	V	500	3	0	0	4.8	-2.0	-3.2
ASEU03	00	V	500	4	0	0	2.1	0.8	-0.9
ASEU03	12	V	500	4	0	0	1.2	-0.4	0.1
ASEU04	00	V	500	5	0	0	4.0	-0.6	-0.3
ASEU04	12	V	500	4	0	0	3.3	-0.8	2.5
ASEU05	00	V	500	3	0	0	1.3	1.0	0.1
ASEU05	12	V	500	4	0	0	3.2	1.0	-1.3
ASUK01	00	V	500	3	0	0	3.6	0.7	0.4
ASUK01	12	V	500	2	0	0	2.3	-0.3	0.8
DBBH	00	V	500	9	0	0	2.9	-1.4	-0.1
DBBH	12	V	500	2	0	0	3.2	0.1	2.0
EBUQ	12	V	500	16	0	0	3.5	0.8	-0.4
ELML7	00	V	500	10	0	0	3.5	1.0	-0.6
ELML7	12	V	500	11	0	0	3.7	0.7	1.0
FQFL	00	V	500	11	0	0	3.0	-0.3	-0.1
FQFL	12	V	500	14	0	0	2.8	-0.2	0.8
FQFM	00	V	500	9	0	0	4.6	-1.8	-0.3
FQFM	12	V	500	11	0	0	2.6	0.6	1.2
KRPD	00	V	500	1	0	0	3.8	-0.1	-3.8
KRPD	12	V	500	2	0	0	1.6	1.4	-0.1
LDWR	00	V	500	26	0	0	3.4	-0.4	-0.1
LDWR	12	V	500	28	0	0	3.2	0.4	0.1
OXGN2	00	V	500	4	0	0	2.4	0.6	0.2
OXGN2	12	V	500	6	0	0	3.2	-1.0	0.7
OXVH2	00	V	500	6	0	0	4.7	0.0	-1.1
OXVH2	12	V	500	10	0	0	5.0	0.0	-0.3
SKUN	00	V	500	2	0	0	3.8	1.3	-2.9
SKUN	12	V	500	4	0	25	11.9	3.3	5.6
V2BD9	00	V	500	6	0	0	2.4	0.3	-0.7
V2BD9	12	V	500	5	0	0	2.6	0.6	-0.2
V2XM	12	V	500	1	0	0	0.5	-0.4	0.3
WPKD	00	V	500	3	0	0	2.5	1.1	-0.1
WPKD	12	V	500	2	0	0	2.3	-0.2	-0.5
ZCBF3	00	V	500	1	0	0	2.8	2.2	-1.7
ZCBF3	12	V	500	1	0	0	6.5	-0.4	6.5
ZCBP6	00	V	500	1	0	0	4.9	0.1	4.9
ZCBP6	12	V	500	2	0	0	2.6	0.9	-1.3
ZSAF	00	V	500	1	0	100	26.6	26.0	5.6
ZSAF	12	V	500	2	0	100	36.2	33.5	-2.1
03953	00	V	500	29	0	0	2.9	-0.2	-0.1
03953	12	V	500	27	0	0	3.2	0.6	0.3
04018	00	V	500	29	0	0	3.9	0.5	0.6
04018	12	V	500	28	0	0	4.8	0.4	0.8
04220	00	V	500	29	0	0	4.0	0.8	0.1
04220	12	V	500	28	0	3	5.2	1.5	-0.2
04270	00	V	500	29	0	0	3.4	1.0	0.1
04270	12	V	500	29	0	0	4.3	-0.8	1.0
04339	00	V	500	29	0	0	4.5	-0.5	-0.3
04339	12	V	500	29	0	0	4.0	0.9	-0.6
04360	00	V	500	28	0	0	3.7	-0.5	-0.6
04360	12	V	500	28	0	0	4.7	0.2	-0.5
08001	00	V	500	29	0	3	6.3	0.0	-0.1

08001	12	V	500	24	0	4	4.8	1.0	0.9
08508	12	V	500	13	0	0	2.1	-0.7	-0.1
08522	12	V	500	27	0	0	3.5	0.7	0.2
08594	12	V	500	27	0	0	3.4	-0.2	-1.4
71600	00	V	500	29	0	0	4.2	0.1	0.6
71600	12	V	500	29	0	0	4.3	0.5	0.7
72201	00	V	500	29	0	0	3.0	0.5	0.2
72201	12	V	500	29	0	0	2.3	-0.1	0.0
72402	00	V	500	29	0	0	4.1	-0.3	0.4
72402	12	V	500	29	0	0	3.5	0.0	-0.4
74494	00	V	500	28	0	10	3.4	-0.7	0.2
74494	12	V	500	29	0	10	3.5	0.6	-0.1
78016	00	V	500	28	0	0	4.0	-0.3	-0.6
78016	12	V	500	28	0	0	3.9	0.2	0.4

APPENDIX I

1. The gross error limits for observation minus background differences of geopotential height in Tables 5, 10 and 11 are:-

Level (hPa)	Geopotential height (metres)
1000	100
850	100
700	100
500	150
400	175
300	200
250	225
200	250
150	275
100	300
70	375
50	400
30	450

The weighted RMS values used in Table 5,10 and 11 are calculated using the following weights:-

Level (hPa)	Weight
1000	3.70
850	3.40
700	2.90
500	2.20
400	1.90
300	1.60
250	1.50
200	1.37
150	1.19
100	1.00
70	0.87
50	0.80
30	0.64

2. The gross error limits for observation minus background differences of windspeed in Tables 6,12 and 13 are:-

Level (hPa)	Windspeed m s^{-1}
1000	35
850	35
700	40
500	45
400	50
300	60
250	60
200	50
150	50
100	45